Analog Science Fact—Fiction

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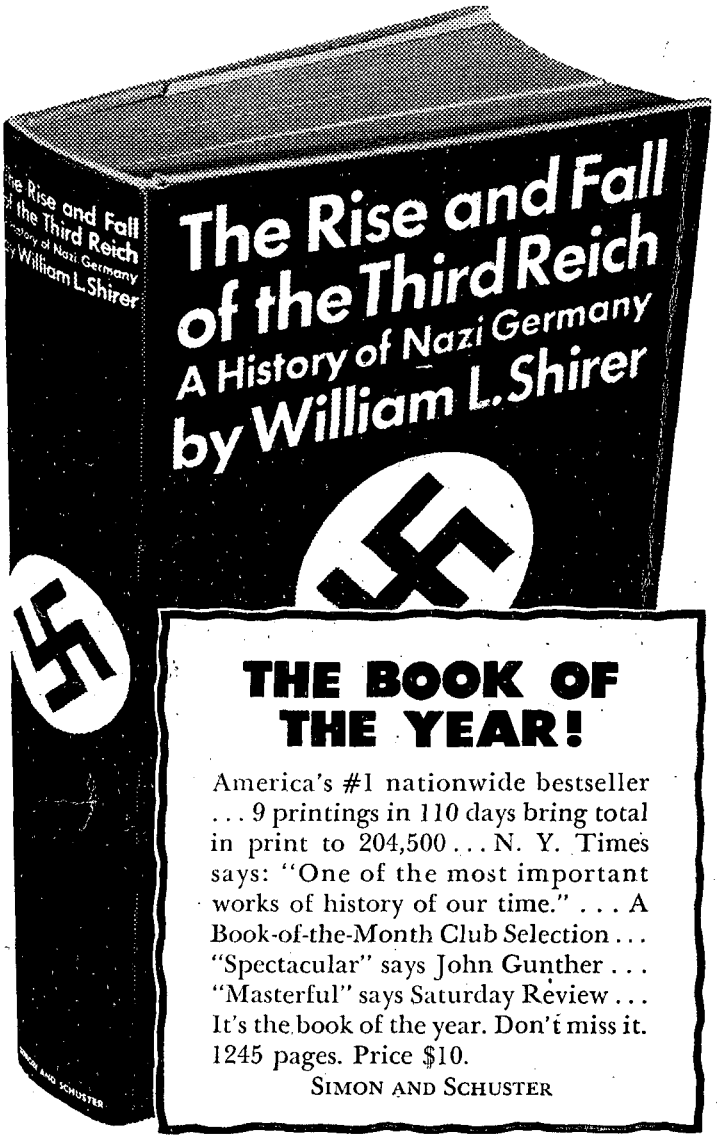
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CIVIL WAR CENTENNIAL

IT'S BEING fairly widely publicized that this marks the one hundredth anniversary of the War Between the States. Mayhap we can do a little second-guessing on the system of events involved in that conflict that would be helpful in understanding present and future tensions?

One thing to note carefully is that this year marks the one hundredth anniversary of the *beginning* of the conflict; no one in his right mind would say that the problems that led to that war have been finished for one hundred years. We're still fighting on those matters.

The War was, of course, one of the most viciously bloody affairs in history—family fights are apt to be nastier than fights between strangers, because, with strangers, you have so few pent-up, long suppressed feelings of injustice and insult to be worked off.

Moreover, the Civil War was the bloodiest, most vicious and stubbornly contested of all types of war—a war of Idealism. And there's nothing like a high-minded theoretical-idealist to generate fanatical bitterness and hatred. A pragmatic man, fighting for rational cause, puts limits on his involvement; it takes a dedicated idealist like Torquemada, the Chief Inquisitor, to pull people apart a little bit at a time for the good of their immortal souls.

The essential idealisms on the two sides in 1861 were that of the Abolitionists in the North, demanding that the slaves be freed, and the equally idealistic Southerners who were defending their peaceful, happy way of life.

Before we get angry cries about the poor, suppressed Negro slaves in that "peaceful, happy way of life,"

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please remember that the *fact* of history is that the Negro slaves didn't revolt against their theoretically-cruel masters during the war period. They worked their fingers to the bone trying to maintain the economy of the home-front while their masters were away fighting for that way of life. This being a fact the theoretical-idealists of the time—and later—don't like to notice, it's not ordinarily looked at very carefully.

Now slavery as a human institution is—theoretical-idealists to the contrary notwithstanding—the *normal* relationship system in all the sweep of human history. Cultures which did *not* have slavery are like bears in Rhode Island—they exist, but there are remarkably few, and very hard to find. And this despite the fact that Abolitionists—like Prohibitionists—have existed in every age.

The present situation of the world is unique, actually; it's the first time in all recorded history that antislavery cultures have dominated the planet.

The Civil War was brought about by emotional idealists, with Noble Theories of human relationships. Abraham Lincoln, you may recall, lost in his debates with Douglas, "the Little Giant", because Lincoln did *not* take a firm, four-square stand against slavery; Lincoln was too wise to fall for the old, old trap the Abolitionist-idealists were in: "The only way to end slavery is to enslave the masters and beat them into submission."

You don't end slavery by inverting it.

A century of experience indicates that the Abolitionist theories didn't work. Oh, the Abolitionists were right in their proposition "We can beat them into submission!" They did that, all right.

But, as Uncle Tom said in the book Lincoln credited with having started the war, "You can beat this p'o' black body, but mah Soul belongs to God!" You can beat a human being into submission-in-action . . . but that doesn't change his beliefs and attitudes. You can make him *do* what you say, but you can't make him *like* it. The theoretical-idealist is characterized by an absolute, one hundred per cent inability to learn anything from historical lessons that demonstrate his theory doesn't work.

It's a characteristic of human minds that evidence *for* a deeply loved theory is accepted instantly, and as one hundred per cent valid proof, while evidence *against* the theory is not noticed, is denied if forcefully called to attention, or explained away as hoax, coincidence, mere accident, or irrelevant to the subject. The fact that all history shows that inverting slavery has never ended it had no effect whatever on the theoretical-idealist Abolitionists.

Incidentally, the Africans, now, are showing the same old emotional-idealist conviction; the Black must enslave the White, in their opinion. That's the only way to end their slavery.

A century hasn't effectively modified the attitude the Abolitionists

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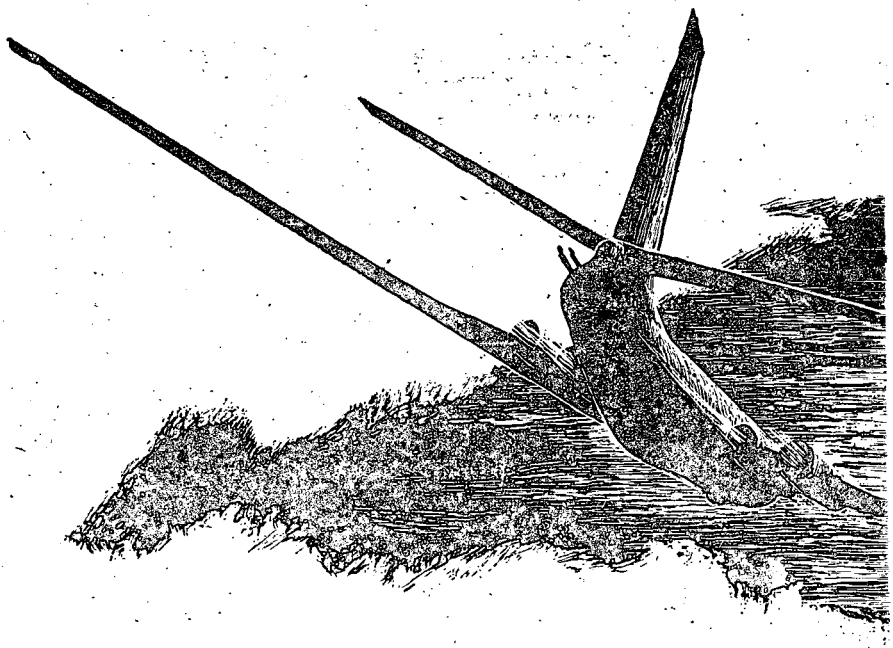

PROLOGUE TO

By LEIGH RICHMOND

Finnagle's Law shows that many times we don't get the effect we planned on. But . . . there's an inverse to that famous law, too . . .

Illustrated by Schoenherr

ANALOG SCIENCE FACT & FICTION

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..AN ANALOGUE

THE IWC program was a newscast by Bill Howard, and the news was particularly vicious that night.

Bill, his big homely face leaning across a desk toward the viewer, talked in horrified tones of the "pest-sub" that had reputedly got stuck in the Suez and spread epidemic across Cairo.

It was easy to assume, Bill told his audience, that the nations most interested in creating a crisis in the world right now had put the sub there to make an excuse to accuse us of the terror. It was undoubtedly really there, and was undoubtedly really of American make, and the epidemic was undoubtedly very real indeed, he said. The United Nations investigating team, due to go into the Canal Zone the next day and make their report to the world, would find that

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the epidemic was caused by laboratory-developed bacteria, carried in by an American-made sub. It would be at least as bad, if not worse, than reported.

The question before the world, Bill said, was not whether bacteriological warfare had started, but who had started it—and the fact that the sub carried United States markings and was of United States make did not at all answer the question.

Bacteriological warfare had broken out and where it would strike next was anybody's guess.

"But let there be no mistake," Bill said. "This is war."

It was on that note that the station break came, and the thirteen witches, trademark of the International Witch Corporation, came on.

Harvey Randolph, manufacturer of the Witch line of products, leaned toward the screen intently. He had just transferred his account to Burton, Dester, Duston & Oswald, and they had dreamed up a new-type commercial for the products.

The thirteen witches were long-legged, slender dancing gals, in tall black witch caps and long black capes, crimson-lined, and very little else. Each had long hair that swirled as she danced.

Randolph chewed his lip, watching them thoughtfully.

They came on with what was almost a valkyrie cry—"Witches of the world, unite—to make it clean, clean, clean, Witch clean—NOW!"

"Hm-m-m," thought Randolph. The cry struck rather sourly at the end of that "this is war" sentence from the newscast, he thought, but then that dramatic newscast-ending was rather unusual.

The witches were singing a jingling chorus as they danced. "No task is too big, no task is too small," they sang. "Which Witch do you need? You should have them all—"

Each witch, of course, displayed her particular product from the Witch line—detergent, soap, shampoo, cleanser, cleaning fluid . . .

"Witch soap or detergent

"Witch cleanser upsurgent . . .

"Which Witch do you need? You should have them all . . ."

This was fairly average as commercials go, thought Randolph. The big BDD&O radical innovation would be next.

It was. On the screen behind the witches appeared a map of the Suez Canal, and then a papier-maché model of the nose of a sub, and a dockside shanty, a gray pall hanging over them.

As the witches turned and began dancing towards it, the deep voice of the announcer spoke over the muted jingle. "Witches of the world, unite! If Nasser had enough Witches, he could solve the crisis which has us all in stitches . . ."

And the witches, in a united dance-step, approached the sub and shanty singing "Make it clean, clean, clean, Witch clean, NOW!" Each sprayed it with a Witch product, and as they sprayed the pall lifted, the sub and shanty showed shining bright, new-painted.

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"Clean, clean, clean," chanted the chorus; "Witch, Witch, Witch, clean, clean, clean. Defy dirt, defy disease. "Keep Witch clean!"

Well, thought Randolph. And then again, Well.

He wasn't quite sure, he told himself. The commercial came darn near being in poor taste, what with the crisis so near, and yet . . . it wasn't something to make you forget the product. By Geoffery, no! You'd think of Witch products quite a bit, after watching that one.

He reminded himself to check the viewer reaction that would be available fairly early next day, as he switched off the TV.

It was almost noon next day before Randolph reminded himself of the call he'd planned to make to BDD&O. He got Oswald on the wire almost immediately.

"Randolph, here," he said. "I called you about that new commercial. It seems a little drastic. Are you planning to use it again tonight?"

"Use it? We're taking full credit, in a witchery sort of say!" Oswald laughed. "Never saw anything like your luck, Randolph. I've got the entire staff tied up doing the follow-up for tonight. You needn't worry about libel, either. We've got the whole legal staff turned out, going over every detail."

"It seemed pretty near the line to me," said Randolph, chewing his lip. He found himself a little puzzled over Oswald's tone, but not too much so. Any public relations man was overenthusiastic by nature, in Randolph's estimation. Maybe it took that to make a good p.r. man. "People might resent our making hay out of sickness, even if you are preaching that cleanliness will prevent it."

"Sickness, you might have a point. I admit I'd argue it, but you might. But wellness, now, it's different. I do know that if the United Nations team reports there's no epidemic, and that the pest-sub is one of the cleanest, healthiest-crewed submarines in the business, it's safe for us to assume it's so, and to imply that Witch Products are used to keep it clean."

"Mr. Oswald," Randolph's voice took on a note of imperious prissiness. "Would you mind explaining just exactly what you are talking about?"

"Haven't you heard the news? There's no bacteriological war! I admit that puts Bill Howard way out on a limb, but there are a lot of very fine people with him. There's no epidemic in Cairo. There's not even a bad cold that the United Nations team could find. And they give that so-called pest-sub the most complete bill of health in the business.

"Now, the deal we plan for tonight . . ."

At the same moment, a number of very important people were closeted with the President. Their reactions to the United Nations report were quite otherwise than those Oswald was experiencing.

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"It's the exact timing, and the detail of execution that scares me, Mr. President," the Undersecretary of State was saying. The Secretary himself was coming in by jet, and would join them immediately on arrival.

"It implies a technology that we can't touch even in our wildest dreams. I've talked to the CIA chief himself, and the reports from our operatives are beyond question. The epidemic was not only real, it was widespread. The pest sub was as real as this chair I'm sitting on, and its crew near death to the man, and no question about it.

"If they can fight a bacterial war and produce an overnight cure at the same time . . . we're at their mercy. There is no bomb ever developed—or that can be developed—to touch the power of what they've just demonstrated."

The President ran his fingers through his hair. His face looked more drawn than any man had yet seen it. Yet he smiled.

"We're not suing for peace terms yet," he said, and turned to the nation's foremost biologist, sitting quiet in a nearby chair.

"What's your reaction?" he asked.

"We've always known," the answer came despondently, "that bacteriological warfare is far deadlier than any bomb—if there were any protection from its effects for the victor. We had a strain of bacteria once, for which we had an immunization course, and we developed it far enough along the line to realize that, even though you immunized every man, woman and child in this country in advance of releasing it in another part of the world, mutant strains would eventually wipe out this nation as well as those we fought."

"How about mutant strains of the Suez bacteria?" the President asked, then answered himself. "No, they've produced an antidote. An antidote, if our reports are correct, that works overnight." He shook his head slowly.

"The ultimatum should come very soon now," the President said.

"It is the timing. I do not understand the timing." The big man in the Kremlin was allowing himself an appearance of indecision that he did not often indulge before underlings.

Of course, there was but the one underling, and any audience that proved to have a later-embarrassing potential could be silenced with ease. Still, it was unusual, and the lieutenant who served as combination secretary and backstop for oratory quaked as he listened.

"The timing is all wrong, but the fact is a fact. It must be a fact, or every operative we have should be Siberianized.

"We must, of course, act. The action must be immediate. We are zeroed in . . ."

"No!" Vlada heard himself speak, and his whole body was outraged at the action. He stood white, trembling. But he had spoken, and try as he would, the word could not be pulled back.

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"No? My little dove, and what would you suggest, then, if we are not to defend ourselves from this capitalistic aggression? That we shall sit with our hands folded and allow them to dictate the terms of our surrender? Speak!"

"Send them a pest-sub, and see if they can handle the bacteria we have developed!" Vlada's throat was dry, and his voice was not his own. No power on earth could have made him open his mouth, but he had opened it, and he fully expected the lightning to strike him at that moment.

"Send them . . . ah, of course. They can cure their own, and they have taken a so-dramatic method of saying that they can cure their own. But can they cure the products of our laboratories? Now that, we shall see.

"But we shall be as subtle—more subtle, even, than were our capitalistic friends. We shall not send our sub to them. We shall send it to a small island, and we shall see whether they wish to taste the death, the strangulation and crippling and suffering, the destruction of sanity that shall be the lot of those islanders . . ."

In Peiping the distress was no less acute—but the reaction was somewhat different.

The scientist being grilled had no hope left. He could answer honestly, for there was nothing that could save him from that which was in store.

"The strain was virulent. There is no known antidote—nothing could have saved that port, nor most of Africa and most of India—and there was no way for the world to know from whence came the death-dealing submarine except that it be the mighty America.

"The bombs should have come in retaliation, spreading their death and adding to the impetus of the epidemic, so that enough of the world was wiped out to give the great People of the Dragon room into which to expand. We calculated that a third of our own would be wiped out in the holocaust, which would have relieved us of many problems. The tan peoples of India and the darker peoples of Africa should have sued us to lead them in a unity of the yellow peoples, against the insanities of the pale peoples of the west.

"There is no antidote . . . yet the epidemic is destroyed. I cannot yet believe what is told me. I would go to my ancestors happily if I could go to them with the answer to this riddle."

That night Bill Howard came on the screen his big homely face wreathed in smiles, his tweed suit and shaggy blond hair looking even more informal than usual.

"It's a great day for the people of the world," he said.

"There's undoubtedly tremendous political significance in what happened at Suez, and every statesman and every politician will have statements to make, and conclusions to draw.

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"Suez's obvious healthiness has been variously attributed to American technology, garnered from the experts we've sent them over the years; to Russian technology, garnered from their experts loaned to the nation involved; to Mohammed and to the God of the Christians.

"The peoples of the world," he said softly, "are concerned with these things in the abstract, but mostly, we the people are willing to leave this to the theorists, while we rejoice."

"For we the people, who thought we faced that most degrading, that most unanswerable, that most horrible fate of all, bacteriological war, find ourselves at bacteriological peace."

At the break, the thirteen witches danced on, crying their chant, and behind them as a background was the bright, clean sub-and-shanty scene.

"Witches of the world unite, to make it clean, clean, clean, Witch clean—NOW!" they chanted. "Pestilence or peril, disease or disaster, Stay clean, clean, clean, Witch clean!"

"Ah," said the deep voice of the announcer as the jingle muted, "Which witch do you really wish? Witch is the modern method of cleanliness, using the best of modern technology, and the Witch witch is witching through the world . . ."

Randolph watched the program skeptically. The best lawyers and the best p.r. agents to be had, he reminded himself. Still . . . There was a nagging worry that this thing was going too far. It's O.K. to claim the moon, he thought, chewing his lip, but isn't it a little risky to claim peace on earth for the Witch products?

He made a mental note to call BDD&O the next morning. The audience reaction would make itself felt by then, and he could decide . . .

It was almost noon next day before Randolph reminded himself of the call he'd planned to make to BDD&O. He got Oswald on the wire almost immediately.

"Randolph, here," he said. "I called about that new commercial. It seems a little drastic to claim peace on earth for the Witch products. What are you planning for tonight?"

"More of the same!" Oswald's voice was jubilant. "The switchboard has been swamped, and we're on almost every program on every channel! They're taking us apart, of course. 'Witchcraft raises its head,' and 'Salem is here with a new twist and a singing commercial,' and 'Anybody got a pestilence?'—that sort of thing. But they're crediting Witch products from dawn to dawn. I sure didn't make a mistake when I tied our contract to your sales! We ought to break the bank!"

Randolph chewed the thought in silence. "Oswald," he said, "It's an old habit of the American people to make a joke out of what they can't understand. Sort of Paul Bunyon all over again. But don't overdo it. That Witches of the world unite, deal. Remember the IWW? Wasn't that sort of communistic?"

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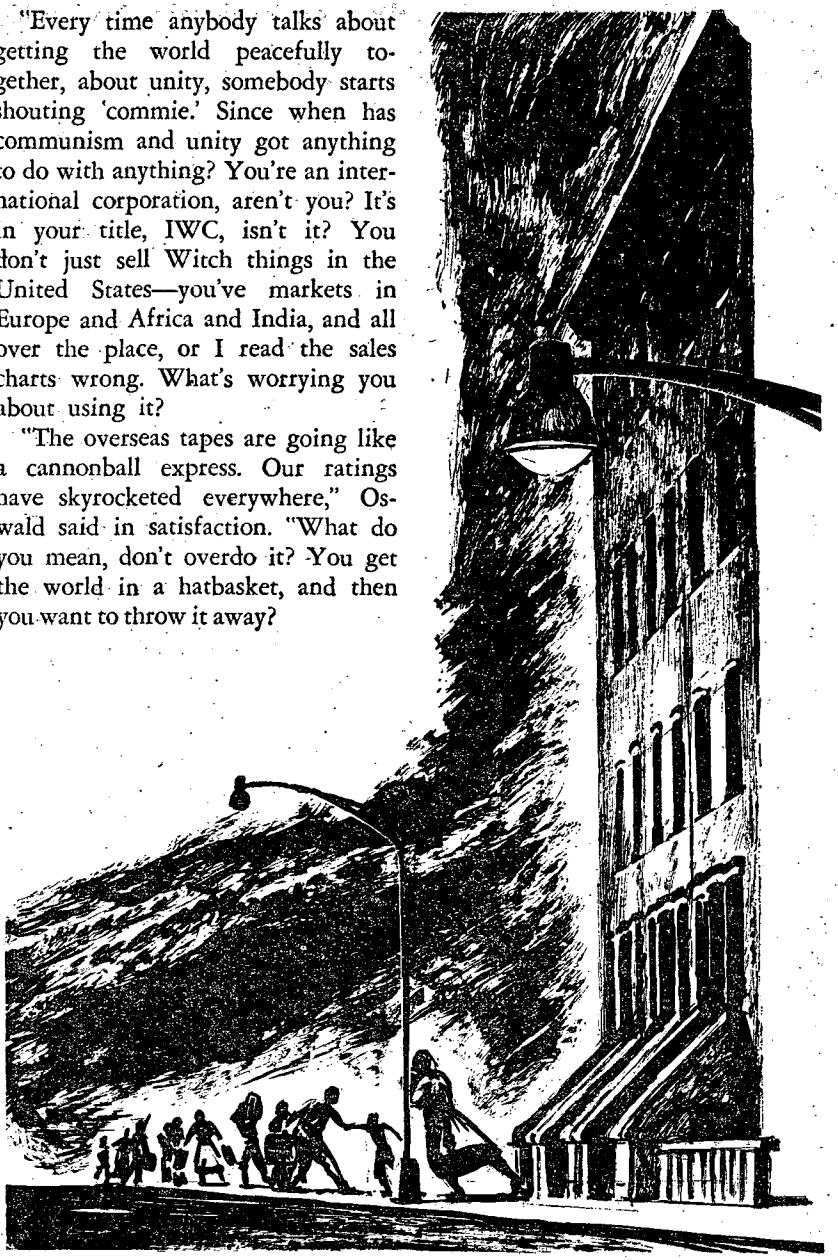
"Every time anybody talks about getting the world peacefully together, about unity, somebody starts shouting 'commie.' Since when has communism and unity got anything to do with anything? You're an international corporation, aren't you? It's in your title, IWC, isn't it? You don't just sell Witch things in the United States—you've markets in Europe and Africa and India, and all over the place, or I read the sales charts wrong. What's worrying you about using it?

"The overseas tapes are going like a cannonball express. Our ratings have skyrocketed everywhere," Oswald said in satisfaction. "What do you mean, don't overdo it? You get the world in a hatbasket, and then you want to throw it away?



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"Incidentally," he added in a calmer tone, "I got one crank call that's got me thinking. The guy got all the way through to me before he'd talk, and that takes some getting, what with the salaries I pay people to keep the cranks off my neck.

"He said that now we had the witches of the world united, why didn't we do some real cleanup work, like slums and insane asylums. Got me thinking, you know. A good cause never did a program any harm."

Randolph chewed his lip a while in silence, and Oswald, knowing his client, waited patiently.

"I like that a lot better than claiming peace on earth for the Witch products," Randolph said at last. "Why don't you pick a slum we can clean up for not too much, and let's see what you can work out. This cleanup theme isn't bad, it's just peace on earth that doesn't really belong to us you know.

"I tell you what. We'll go to fifty thousand dollars or so on a cleanup job, and you use that. Leave the world to the politicians and the eggheads."

After he hung up, Randolph stood by the telephone, still chewing his lip. Could you clean up something like a slum for say fifty thousand dollars? Oswald would double the figure in his own mind, of course, always did. But he'd get the sales out of it. His contract was tied to sales.

Yes, he thought, it was best to call him off the track he was on now. Lawyers or no lawyers, that sort of thing was dangerous.

It took a week, and it took every member of the staff that could be pulled off other programs, as well as the ones assigned to Witch.

The "slum" had been located—three buildings in a short block just up from the Battery, surrounded by new buildings. It was a one-privy-to-a-floor, cold-water only setup, with a family living in every room. It existed on high-value land only because the land and buildings were tied up in an estate and couldn't be sold. But they could be remodeled and thrown into one, and contracts were signed, permissions granted, the paperwork alone filled nearly a complete file cabinet.

It would take double the fifty thousand dollars, of course—maybe more. But Randolph had authorized it, hadn't he? He always named half the figure—or less—than he meant to be used. Anyhow, international ratings and sales would more than make up the purse, because this thing would hit socko. Worry about the cash was the last thing that was bothering Oswald. He had a bear by the tail, and his contract price was tied to the gross . . .

The show was ballyhooed the whole week while the work went on.

"Clean, clean, Witch clean—what's the witches next big cleanup? Witches of the world, unite—let's cleanup this old world and make it livable . . ."

The night the new cleanup job was to show, Randolph tuned in his TV as ignorant of the details as the next viewer. It worried him a little

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that Oswald insisted on keeping him in the dark on everything except the fact that it would be a slum cleanup, but he had the best p.r. men and the best lawyers in the country working on it, he told himself; and certainly the sales charts for the past two weeks had been spectacular.

"We can count on the biggest TV audience of the year tonight," Oswald had told him gleefully at noon. "The buildup's been a natural, and those 'Salem with a new twist and a singing commercial' plugs have been continued on this network—the cost of that was comparatively small—and I've even gotten them onto a few of the really big shows to boot."

Bill Howard came on the screen, his big homely face leaning across the desk toward the TV audience.

"The biggest news in the country right now," Bill said in a solemn tone, "is the biggest single cleanup job in the country today.

"There's a slum," Bill said, "right here in New York that the Witches of the world will unite to cleanup —tonight."

Then he put on the full power of the personality that made him the most listened-to newscaster on the air, TV and radio. The manner that made the news sound human, like it really happened to real people. He put it on full power, and went to work.

First he showed a big map of New York, and talked about how people thought of it as a big, impersonal place, but it wasn't. He made it everybody's home town.

Then he traced the map right down to the exact spot where the buildings were. Then he turned on a movie, and he showed the back-door, garbage strewn, and a room where a family slept, seven of them, and the privy they shared with five other families.

Then Bill turned off the movie, and he brought that family to the mike, each of them dirty and in clothes that never had amounted to much, and had seen a long life since —even the baby. One kid's shoes had a sole flapping off, another had the toes cut out so he could wear them, though he'd long outgrown them.

"We haven't added to what we found," Bill said. "This is the way the . . . I've introduced them as the Jones family, let's leave it at that. This is how the Joneses have had to dress. This is how they've had to live. This is a very real part of America," he said, and his voice was choking a little, and Randolph thought, if he's putting that on, he's the best actor I've seen yet.

Randolph found himself glad he was alone, and didn't have to speak himself. His own throat felt choked.

"And now," said Bill to his audience, "It's time for the witches . . ."

The camera shifted, and there was a papier-maché model of the buildings, built so you could look in the curtainless windows and see the squalor, lighted with a single bulb on a string. There was a gray pall over the whole thing, and newspa-

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pers and trash blowing against the front of the building. The gray pall, Randolph had figured from the subscene two weeks ago, was an effect of lights on a net curtain, but the effect was really good.

The thirteen witches, slender witches, danced in waving their products and crying their chant, their crimson-lined capes swirling out to glimpse the audience their long, slender legs.

They cried their chant as they pranced toward the dilapidated building. "Witches of the world, unite to make it clean, clean, clean, Witch clean—NOW!" And each threw a spray of her product toward the building.

"Witch soap or detergent, Witch cleanser upsurgent, which Witch do you need? You should have them all. . . ."

Then riding over the muted jingle the deep voice of the announcer saying "Tonight the Witches of the world clean a slum of the world . . . a particular slum, this slum.

"Witches, unite! And clean, clean, clean, Witch clean. . . ."

The dancing witches now threw each her ingredient on the building itself, and the gray pall began to lighten, a bright, new-painted front shone forth. Inside, the single bulbs blacked out for an instant, and then a soft light showed through curtained windows, a bright new scene dimly apparent through the curtains.

"This is not just an illusion," the deep voice of the announcer continued. "This is really happening, down near the Battery in New York City. It is happening to the Joneses and the Smiths who live there—"

The chorus rose to cover the announcer's voice, "Clean, clean, clean, Witch clean!"

The commercial and the witches faded, and Bill Howard's big, homely face came back on the screen.

"Let me introduce you again to the Jones family," Bill said. "I'll introduce you to the Joneses, but they're just one of the families who will now have a decent place to live—and the same miracle has happened to each of these families."

Now the Joneses came again on camera—clean, in new clothes, hair brushed, a miracle indeed of the costume-changers speedy art. Randolph assumed that teams of BDD&O members had been at work during the commercial, creating the miracle. From the baby up and down they shone, and their faces shone with an inner light—

When Randolph shut off the TV that night, he was chewing his lip violently. Must have been more than double that fifty thousand dollars, he thought. He reminded himself to phone BDD&O first thing in the morning.

It was still an hour before noon when Randolph's phone rang.

"Randolph, here," he said in the formality he'd adopted on an English visit and carefully kept.

"Good morning," Oswald's voice was formal. "Good morning." There was a silence, while Randolph waited for the other to continue.

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Finally, Randolph said, "Good show, that. Must have cost a lot more than my price," he added. "It was good, though," he said again, thoughtfully.

"Randolph," Oswald's voice sounded wild, "I don't know what the thing cost. I don't know—"

"Now, sir, just what do you mean, you don't know the cost? I told you to spend fifty thousand dollars, and from what I saw last night it'll cost four times that. I'll go as high as one hundred twenty-five thousand dollars, but not one cent over. And you'd better make it worth the money, for that's a pretty penny," he said.

"Look, Randolph, the cleanup job down there was supposed to start this morning. Contracts let, big crews ready to do the job fast so people could go look at the finished product. Every family was signed up to act as guides, like in Williamsburg. We moved 'em all to the country yesterday, so they'd look healthy when they came back, and the job could start at the crack of dawn today."

"Well?"

"Well, the job's already done."

"That's pretty fast. You said you started it this morning."

"Yeah. And when my man phoned me from down there I told him to get black coffee and sober up. But I went down myself—and the job's done. Exactly the job we specified, too. Done by our plans. Furnished, painted, paint dry, curtains hung, the works, new bathrooms and kitchen and plumbing and electricity. The works. It's finished.

"My best man was down there moving the families out yesterday. He swears the building hadn't been touched then. The contractor says he's going to sue, because he arrived with his crews to start the job, and somebody else had done it. You come on. You've got to meet me here and tell me the answers.

"Just what do you put in that soap of yours, anyhow?"

By afternoon it was banners in every paper, wire-serviced across the nation and the world.

Most of the stories were written tongue-in-cheek about the miracle part. It was assumed that Witch Products had done the inside job in advance, and thrown in the outside cleanup during the night.

The tenants were interviewed—Oswald had the sense to move them right back into their new apartments—and not one of them could be made to break down and admit that those buildings hadn't been slums yesterday. Well, you couldn't blame them for sticking by Witch, look what Witch had done for them was the word that went around Bleek's.

Of course the thing was a curiosity natural, and the police had so many men assigned there by nightfall it looked like a concentration camp. TV portables and news photographer's flashbulbs didn't lessen the confusion any, and the crowds were being let in and through only when there was room for more.

Bill Howard was there when Randolph went through, in earnest con-

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versation with a group of youngsters in one room. Oswald arranged that the Witch manufacturer should have a strong police escort, and the crowds moved back to make way for him in each apartment.

The tenants answered his questions, but they did so with a sullenness that surprised Randolph. Yes, it had been a mess the day before. Yes, it had been rebuilt, obviously, during the night, while they were gone. Yes, just the one night.

"They should be saying thank you," Randolph noted to Oswald. "They're acting as though I were a suspicious character."

"It's our escort," Oswald explained suavely. "These people don't think of cops as their friends. Besides, this is pretty new to them."

Randolph chewed his lip, and decided that Oswald was probably right. But the attitude was general, and it irritated him. He left after the briefest go-through.

That night Bill Howard was conservative in recounting the big news-story of the "slum clearance." He wasn't giving it the real Howard try, Randolph thought, sitting in front of his TV. There was a quote in the story he told, too, from the father of the Jones family that had been on the program the night before. "I reckon it's pretty wonderful, Mr. Howard," Jones had told him. "But I don't rightly know that I like it. Must admit I'm scared of this stuff," he had said, and he waved his hand at the newness.

It was just a single sour note in the story, but it stuck out. The rest was a description, without any mention of the "miracle" part.

At the break, the witches played the credit line to the hilt, though.

"Witches of the world unite to make it clean, clean clean, Witch clean NOW!" they chanted their cry, and reenacted the scene of the night before, while the announcer's voice rode over the muted jingle to explain that Witch products had been used to make the slum clean, clean, Witch clean, even though it took carpenters and builders and contractors to remodel a slum building itself. That's better, thought Randolph, watching. No more of this "miracle" nonsense.

It was barely 10:00 a.m. next morning when Randolph's phone rang.

"Randolph, here," he said, and heard Oswald's voice without preliminary.

"They've gone."

"Who's gone?"

"The tenants of the building. Just picked up their duds and left. I've put dicks on the case, and one family has moved in with relatives in the Bronx. The others scattered, but we'll trace 'em. Here's one of the policemen that was on duty when they left. He'll tell you."

A new voice came on the phone, as Randolph chewed his lip.

"Mr. Randolph? This is what happened, near as I can figure. We roped off the area at dark, last night. Figured we'd give the families some

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rest, and keep out the night-thrill guys.

"Everybody in the apartments must have gotten together after we cleared out the crowds. It was pretty quiet, but the lights stayed on till about 2:00 a.m. Then they all started parading out, some even wearing their old clothes. They were carrying a few things, but nothing that looked like they hadn't had it before the change, so we figured what they were taking was theirs, probably.

"Didn't say a word. Just paraded past us. Some of the kids was crying, but otherwise they were quiet."

"Then one man came running back to me, and he said 'Get out of here. It's the devil's work. Get away from this place if you're a God-fearing man.' Then he turned and ran toward the subway with the rest.

"I couldn't figure we had any orders to stop em, so we didn't try. We just watched."

Oswald came back on the phone.

"Can you keep it out of the papers?" Randolph asked.

"It's already on every newscast, and the papers'll have it by noon—it's on the wires," Oswald said.

Randolph coughed nervously, but Oswald didn't wait for him to speak.

"I'm working on something to counteract this," he said. "We're being witch-hunted," Oswald said. "I'll get the whole firm to work on it and call you back."

In Washington, meantime, another conference was going on, far more intent, far more critical.

"It's more than just a pest plane that crashed in Formosa, Mr. President," the CIA Chief was saying. "It carried bacterial bombs, and they exploded.

"There's been no attempt to hide its source. It's, of course, of enemy make. No identification on the bodies aboard, they're in civilian clothes. But again, the make is Moscow.

"It shouldn't be long before we know the worst."

"Will they clean this one up as they did the last one, or will they demand surrender terms on this one?" the President asked.

The Secretary of State and the Secretary of War started to answer together, but it was State that got the first word in.

"I think they'll clean this one up," he said. "It would be a direct threat on which they'll demand surrender terms. That's just a guess, of course.

"The best teams of doctors are being organized and jetted over. The best bacteriologists the nation has at its command. Every antibiotic available is being sent."

"Will that make a dent?"

"No."

"How long can we keep it under wraps?"

"A week. Ten days, perhaps, with top security."

"Give it everything you've got. But keep it quiet until we know what the next move is. Twenty-four hour alert, of course, immediately."

"Even if the alert itself endangers the security wraps?"

"Yes. A week to ten days of securi-

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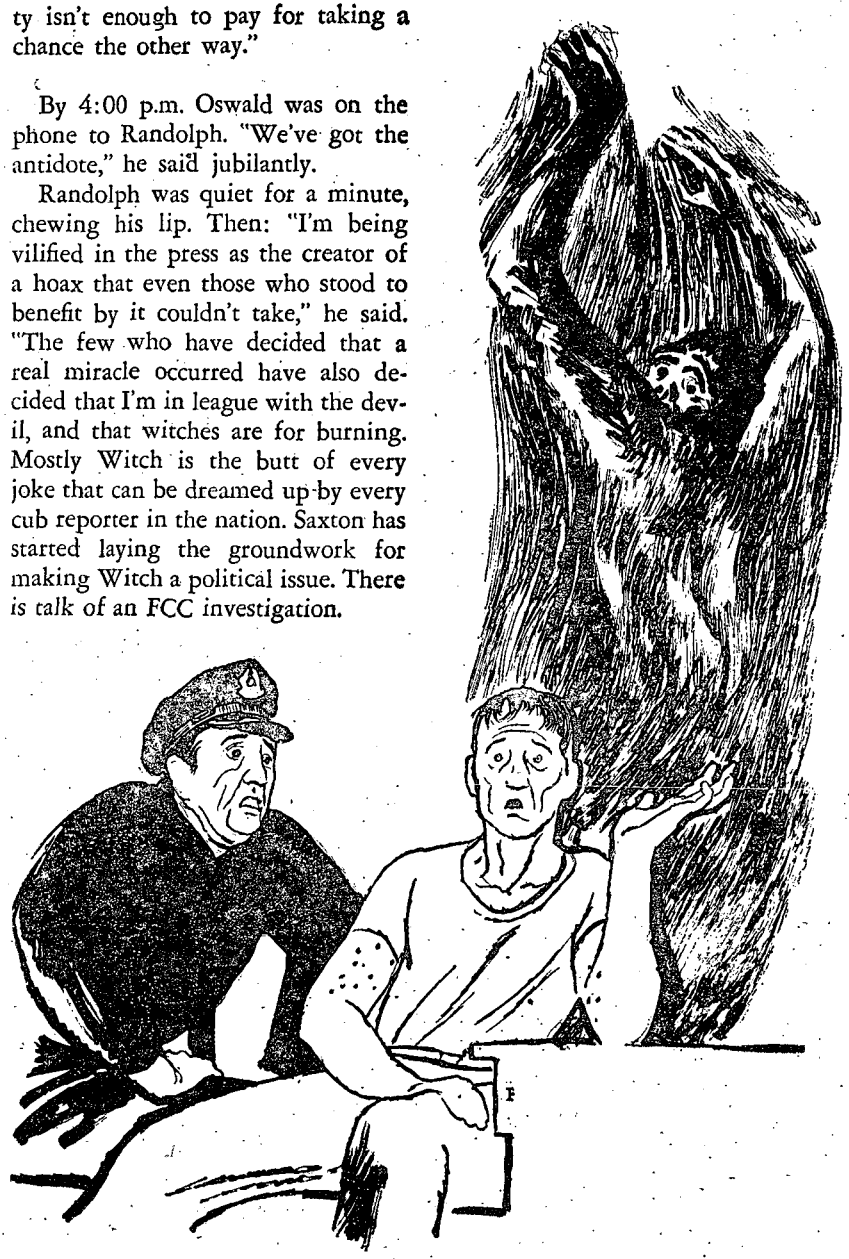
ty isn't enough to pay for taking a chance the other way."

By 4:00 p.m. Oswald was on the phone to Randolph. "We've got the antidote," he said jubilantly.

Randolph was quiet for a minute, chewing his lip. Then: "I'm being vilified in the press as the creator of a hoax that even those who stood to benefit by it couldn't take," he said. "The few who have decided that a real miracle occurred have also decided that I'm in league with the devil, and that witches are for burning. Mostly Witch is the butt of every joke that can be dreamed up by every cub reporter in the nation. Saxton has started laying the groundwork for making Witch a political issue. There is talk of an FCC investigation.



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"I trust," he said formally, "that your antidote is an efficient one."

Oswald's voice sounded smug, and not at all disgruntled. "Try this on for size," he said. "First, Witch is known far and wide as nothing less could have made it known—"

"Yes, and if the churches ban the use of Witch, we'll wish we weren't."

"O.K., O.K. Tonight we explain carefully that the 'miracle' was a miracle of cleanliness, and that carpenters and contractors and all that did the miracle. You know, American technology and mass production in operation, something to be proud of. Tie Witch right in to the whole picture of the United States as the leader of mechanical—stress mechanical —miracles.

"Then—what's the most appealing thing in the world?" He didn't wait for an answer. "A child. A small, crippled child, for whom Witch can provide the funds to make her walk." Oswald hurried on, knowing that Randolph had to go through a bit of lip chewing before he could interrupt, and taking advantage of the fact to ride over objections.

"We've got a kid that an expensive operation will save from being a cripple. I've consulted two top surgeons already, and they say it's nearly positive.

"We don't do any hocus-pocus. We just say that Witch is going to pay for the operation. She leaves the broadcast and goes straight to the hospital. We get a movie of the operation, and we do movies on her convalescence, and we play it for weeks until she walks on stage cured —weeks later."

Now Oswald waited. It was a long wait, an unsually long wait, even for Randolph. Finally, he said:

"All right. But if anything unusual occurs you will answer for it in court."

"Nothing unusual could occur. I admit I still don't know what happened last time, but we'll find out.

"Meantime, we'll take a week to build this one up," Oswald continued. "The buildup will stress that this is a cure being bought by money. No miracle, except the miracle of American medical know-how. No miracles meantime. Just keep Witch clean and stay well, and Witch buys the operation the kid needs. She's pretty, too," he added as an afterthought. "Ten years old."

That night Bill Howard leaned across the desk toward the TV audience, and tiny droplets of sweat stood on his forehead. His voice was calm, though. A big map of New York City hung on the wall behind him.

The big news that night was a dope raid. He described the dope traffic in the nation, the efforts of the FBI and every law enforcement body in the country, to track it down, clean it out. He described what it did to the young, who got caught and were slaves for life, unless they could be cured—and he spoke of the meagerness of the cures that were known.

Then he described the raid. He took a pointer from his desk and he outlined how the raid had been

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staged, and he pointed out the location of the building where it had occurred. Then he followed with his pointer the route to the precinct jail where the victims were being held.

"Cannot our best researchers find a cure for this addiction?" he asked in his husky voice. "Cannot our best law-enforcement agencies find the real perpetrators of these crimes? The perpetrators are the fiends who import dope and create addicts to peddle it for them. These who are confined are the victims. If no way can be found to cure them, they must be confined again and again and again, for that addiction will force them to ever-increasing crime to satisfy it.

"If no way can be found to cure them, these are potential slaves for life—"

As he ended the station break came, and the camera shifted to the Witches, dancing on stage, crying their chant.

"Witches of the world, unite to make it clean, clean, clean, Witch clean—NOW!

"Which soap or detergent, Witch cleanser upsurgent—"

The announcer's voice, when it came in over the muted jingle "explained" the miracle of the slum-clearance again—a miracle of American technology. Then he outlined the next "miracle" the Witch Corporation would promote. This, he said, would be a miracle of American Medical know-how. Witch would pay for the expensive operation needed to make a little girl walk again after a crippling disease several years before. Bone would be grafted, new muscles would be grafted, American medical know-how in its full extent would be put at her service.

Keep healthy by keeping clean with Witch, the announcer suggested. Witch would pay for the expensive operation to undo the effects of one disease. Meanwhile, Witch's customers could use the preventive medicine of cleanliness to help them in their fight against disease, while the researchers of American medicine "seek to find you real protection."

It was 10:30 the next morning when the doorbell rang.

A big man was standing outside in a topcoat, hat in hand. Randolph stood in the door, waiting.

The man silently held out a badge, and Randolph moved aside, gesturing him in.

"I didn't look at your badge close enough," Randolph said as he closed the door behind his visitor. "Who are you?"

"Narcotics squad," the man said briefly. "I was on the raid last night."

"Oh? The one Bill Howard was talking about in his newscast?"

"Yes. That one. I don't figure there's any connection, and my boss just laughed when I suggested there was a connection."

"Connection?"

"You see, I took a break from questioning those boys we pulled in. Trying to get a lead to the higher-ups. They were doped to the ears, and sometimes you can get info from

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them right quick. I took a break for a cup of coffee across the street, and there was a TV in the place, and I watched your Bill Howard.

"I left just when your witches came on, shouting that thing about make it clean NOW. I went right back and started in on the questioning again, but the guy they brought in for me to question next was—not dopey. He was . . . well, there's a difference between boys with the monkey on their back, and when there's no monkey. There was no monkey, but the kid began giving me everything he knew would take us to the higher-ups. It was being taped, of course, and I asked him when he'd had his last shot. Not twenty minutes before the raid, he said, calm as you please.

"I had the guys brought back that I'd talked to before and they were—different. Only way I can describe it is, no monkey. The monkey had been there before. I don't know. They each gave us all they had in leads—they'd been stubborn before, but they sang like canaries.

"I checked and nobody'd done anything to 'em to bring 'em off their jazz. If there's anything can be done to pull a guy out of a jazz, anyhow, I've never heard of it, and I've been in the narcotics squad since the year One. I couldn't figure it. I'd been hearing stories about Witch Products and that miracle at the Battery, sort of as a joke, and I thought, just maybe, just possibly, you know . . .

"Anyhow, I took the tapes to my boss, and spoke my bit, but he just laughed.

"Maybe you'll just laugh, too, but I thought I'd ask."

At the same time in Washington, the cabinet was in full session. Reports coming in from Formosa were worse than even the most pessimistic had dreamed. The bacteria hit at the nerves and the brain, and the victims—excruciating was a word being used.

"It's hit everywhere on the island at once. I assume it is contagious as well as having been broadcast from whatever bombs or broadcast methods were used," the CIA chief reported.

"Any word from their embassy?"

State answered that one. "No word at all. Phone calls to the Ambassador only elicit reports that he is not available. I can't reach anybody higher than a fourth assistant undersecretary."

"At least it's not been on the air or in the press."

"I don't know how long we can hold them in leash. Most of your leading papers know there's a twenty-four hour alert on—that was bound to leak—but I've kept them quiet. We'll have to give them something soon, though. They won't take a muzzle too long without at least knowing why."

"Could you give them the story and trust them, when it's this important, and the consequences of leakage this apparent?"

"I'd thought of that. You can convince some newsmen—but there's always a Joe somewhere who figures

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the American people have a right to know their destiny before it's decided, no matter what the effect—and no matter if their most highly elected officials feel it would not be good for them."

"Keep it top security as long as possible. Let me know before it breaks."

"If I can. I'm not a witch. I might not know when it was breaking." The CIA chief grinned sourly at his own allusion.

The next night, the big news was the countdown in process at Canaveral to put a functioning "dome" on the moon. If the dome could be landed successfully, complete with live animals, a man would follow shortly. That was foregone. The question was landing the dome, just a small spaceship body, but completely equipped to keep a man alive for two years, in case anything went wrong with plans to bring him back pronto.

Bill Howard's voice was excited, and he ran his fingers through his hair, pushing it back as he leaned across the desk, the map of Florida behind him.

"To the statesmen, this is a question of who is first and who is second, and perhaps who will control the spaceways," he said after describing the countdown in process.

"But to the peoples of the world, this is mankind, reaching for the stars.

"It is not known," he said solemnly, "whether the failure of many of our shots has been human error or sabotage. Human error is a frailty of the race. Sabotage is a frailty of statemanship, that the world is still divided as it reaches for the stars. Yet each is possible.

"Is there a mechanical error built in by human frailty in tonight's shot? Is there a saboteur at work?

"Or, as the countdown reaches zero, one hour from now, will the dome tear through the atmosphere of Earth in man's first real step to the stars successfully? Is our bird perfect this time?" he asked, as the break came.

The witches danced on crying their chant . . . "Witches of the world, unite to make it clean, clean, clean, Witch clean,—NOW!"

Randolph was chewing his lip still as he went to bed that night. The man from the Narcotics Squad had left peaceably. There were answers to all the questions, and it wasn't his worry anyway. He'd be glad when the little girl had her operation. Grafting bones and muscles might be miraculous, but they were explicable and everybody understood them. Talk of the FCC investigation had died aborning, but talk like that was enough to upset anybody. Everything had been upsetting recently, even though the up-curve on Witch products was holding steady.

The American dome landed on the moon the morning of the day that the crippled child was scheduled to come on the Witch program.

For the American people is was a day of celebration comparable to the

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Fourth of July. In the White House gloom hung like a palpable shroud.

"They'll have to move fast now," the Secretary of War was reporting to his chief. "They can't afford to let us get our man up there. Even if we could shoot him off successfully."

"We can't shoot a man up there until we've proved in at least two more successful shots that we can get him there," Security declared forcefully. "The threat from our enemies is as nothing to the threat from the vote-wielding public if we tried and failed when a human life is at stake."

"Formosa is leaking," admitted the CIA chief. "We can't hold it more than three days now at the outside."

The President rested a hand on his desk. "Two more shots mean at least six months before a man is up there, armed. Three days means Formosa is in the news this week. When the news breaks, credit our doctors and bacteriologists with being on the way to a cure. Fix it so that if they clean up their epidemic, the way they did Suez, we get the credit.

"That's the best we can do right now. Besides looking for a miracle. But miracles are popular these days," he added ruefully.

It was Bill Howard who stood outside when Randolph answered his doorbell next morning. He let the big, homely, almost shambling figure in without a word.

"I came to ask you a question I don't think you can answer," Howard said morosely, not moving farther than the foyer.

"I came to ask you what it is about the witches?"

Randolph chewed his lip, standing there beside his much-larger guest, conscious of his own prim—almost prissy—neatness as it contrasted to the other's shaggy look. Shaggy dog, thought Randolph. Big, unkempt, shaggy St. Bernard.

"What about the witches?" he asked finally.

"Well . . . there have been some funny things. That slum, of course. I was there, of course. I saw it. And I talked to the small-fry. It was a tenement the day before, I'd stake a lot on it."

There was a silence before Randolph answered.

"Well?"

"Well, then a few little things. A narcotics man came to see me. Just personal. Just curious. They've been pulling in the higher-ups in the dope traffic, by the way—on info from the guys caught in that raid.

"Then that Canaveral deal? Were you listening that night?"

"I always tune you in. It seems to me that today is one of celebration. The dome landed."

"Yeah Yeah, celebration. I'm a newsman, and I get stories that don't go out. There's one that just an hour before zero—a man suddenly died of a heart attack. The technician who took his place—you don't stop a countdown like that for a heart attack—checked his work and found an error that would have misfired the thing. There was also one circuit that had been changed, but they left that

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because it was changed to be more accurate. They figured the dead guy had done it."

"So?"

"So . . . well, nothing. I just wanted to ask you. The witches don't touch anything real these days, of course, so even if . . . they were . . . well, magic somehow, they couldn't have been involved."

There wasn't even a pause for lip-chewing this time.

"Are you trying to insinuate that Witch products—"

The question was left hanging, but Bill Howard stood looking his sponsor in the eye.

"Mr. Randolph, I'm not trying to insinuate one damn thing. I'm not even saying anything to anybody, and if I did say anything I'd be laughed off the air, not by you, but by whoever I said it to.

"I'm just telling you what twos and twos have been setting themselves in front of my everlasting consciousness, and asking if you know anything to add to them?"

The lip-chewing started again, and the two stood there. Then Randolph said quietly, "Mr. Howard, I have been manufacturing Witch products for twenty-five years. They have been improved steadily since I first started with a very good formula. They are the best cleaning products available in the world today, I most sincerely believe. They are that exactly, and nothing more than that exactly. So you will have to find another explanation for your twos and twos, which I admit are a rather spectacular run of coincidence, though not beyond the bounds of credibility.

"Myself, I suspect BDD&O with perpetrating some sort of hoax in the first instance. If any more hoaxes are perpetrated, I plan to switch agencies, switch programs, and call for an FCC investigation of BDD&O to clear the Witch name, which never has and never would condone any hoax of any sort, much less one of the magnitude of whatever occurred, which I profess I do not understand, but which I expect the FCC can trace to its source.

"Good day to you, sir." Randolph ended the unprecedentedly long speech, turned on his heel and left Bill Howard to find his own way out.

That night, as Bill Howard ended his newscast, the camera did not switch to the witches. Instead it switched to the announcer.

"Tonight, Witch Products would like you to meet a little girl," the announcer said in a soft voice that contrasted well with Howard's just ended powerful one.

As he spoke the camera backed away to broaden its scope and include in its picture, beside the announcer, a small blond child in a wheel chair. Her hair was shoulder-length and carefully combed. Her eyes were downcast shyly. Her hands gripped the arms of the wheel chair as though for security. Her legs were covered with a shawl.

"This is Mary," said the announcer, then leaned toward her. "Will you speak to the audience, Mary?"

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She lifted deep blue eyes briefly to the camera, then dropped them quickly. "Hello," she said in a voice barely audible.

"Mary is not used to many people, or to audiences," the announcer said. "Mary has been sitting in this wheel chair for almost three years, since a crippling disease twisted her limbs.

"We hope that Mary can be made to walk. The finest surgeons in the country have been consulted, and they believe an operation can give her back her legs, that were twisted when the disease struck. International Witch Corporation has arranged for that operation.

"Tomorrow Mary will go to the hospital. She will have the operation soon. In a few weeks, perhaps Mary will walk.

"Will you like that, Mary? Will you like walking?" he asked, leaning toward the child.

Again the eyes lifted for the briefest instant. Again they dropped shyly.

"Yes," Mary said in that barely audible voice.

"Then you shall have it, if it can be done," the announcer said, and the camera moved even farther back to include a stage onto which the witches danced.

The witches came onto the stage, not toward Mary, but stage center, chanting—their cry.

"Witches of the world, unite to make it clean, clean, clean, Witch clean,—NOW!"

At the corner of the screen, the child-body in the wheel chair shud-

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dered suddenly. Mary took a deep breath, went white and then red. With a forceful gesture she threw off the shawl and looked at her legs. Her hand reached down to touch them.

On the stage itself, one witch stopped dancing to watch. The others noticed, stopped. The jingle died, half through . . .

And Mary stood up, looking at her legs. She took a step towards the camera, and another. Her blue eyes lifted to the camera, widening.

In the absolute quiet, as everyone on stage stood frozen, Mary walked towards the camera, her eyes like saucers looking into it. Her voice, barely above a whisper, spoke.

"I'm . . . I'm walking," said Mary.

The papers called it the cruelest hoax of all.

They carried the story side by side with the withdrawal of the Witch program from the network, both by network and by International Witch Corporation order.

They carried the statement of FCC officials that an investigation would be made.

They carried the statement by Randolph that he would sue BDD&O.

They carried the statement by Oswald that he would sue Witch Products.

But mostly they carried the story of a little girl, who had been whisked from sight and couldn't be located. Who had probably been given an operation to make it possible for her to walk, but had been forced to pay for the operation by taking part in a cruel hoax of unbelievable magnitude.

Bill Howard stayed with the network, on the same time, sponsorless. He'd been cleared of any implication in the hoax by all parties concerned, and his reputation had always been good. He was asked to stay in town and be available to appear as a witness, but the network gambled that he was clear, and kept him on. He was one of the biggest draws in newscasting, his personality that made the news seem to belong to the people, to be a continuing story of their lives, was unique. The network decided the gamble of keeping him on was warranted.

By the next night the Formosa crisis had broken into the news, and it was the news.

The details were horrible, and they were uncovered aplenty. Finally ungagged, those who had been holding off gave the story the works.

The effects of the pest plane, of the pest bombs, were the most vicious that could be developed in the laboratories of bacterial war—and they put to shame the naturally-occurring epidemics that have scourged mankind throughout his history.

And the effects were spreading with the speed of a prairie fire before a high wind.

The entire area was quarantined, and daily the quarantine was extended. No plane could land and take off again. No ship could enter and leave. An airlift of supplies dropped by parachute was being organized.

Bacteriologists and doctors jetted

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to the area were dying with the rest, caught in disease for which there was no answer.

The propaganda attempts to make it seem as though cures were near were flatly not believed. Suez was remembered, but was remembered as a hoax—and the country had had its complete fill of hoaxes.

Randolph had a number of what he referred to—and reported—as "crank calls," asking Witch to try its might. He arranged for every call that reached him to be traced immediately. He remained in seclusion.

Oswald had a few of the "crank calls" and reported them as such.

Bill Howard had a number of calls, and didn't report them.

Bill Howard worried, and added two and two, and sweated, and reported the details of Formosa each night. The details giantized in gruesomeness until their very content was too much for the airways, and he had to censor them as he gave them out.

Bill Howard sweated in the cold January weather, and each day he ferreted further, seeking out the realities behind the censorship that lay heavy now even over the wires. By phone, by gossip, by hearsay and by knowhow he got the stories behind the story—the real horrors that he couldn't broadcast.

Sometimes he rebelled at the censors and himself as one of them, but he knew better than to rebel. It's facing us all, he thought. We each have the right to know.

This is the way the world ends, he thought. With a whimper that comes after the agony, when agony is too great.

And he kept remembering a little girl walking towards a camera with big eyes.

If I were a physicist, he told himself, if I were a physicist instead of a newshawk, I could get a computer to tell me the probability ratio of whether I hold an answer.

That probability ratio is probable ten billion to one, he told himself.

That probability ratio is zero.

Witches are for burning, he told himself.

He told himself a lot of things, and he sweated through the cold January weather.

It had been two weeks since the world heard the first details of Formosa, and the details were so grim now that you couldn't use them at all. Just a blanket story.

That night, the map of the world behind his desk, Bill Howard leaned toward his audience.

He told them the human side of the story of Formosa.

He spoke of the people there, the pawns in a game of international suicide, real people, not just statistics.

He described a family, and he made them the family next door. Mother, father, children, watching one another die, not prettily but with all the torture that the laboratories of the world could dream and put together. A family that watched each other go insane, knowing what was happening. A family that watched

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each other die, writhing and unknowing in insanity.

He took his pointer and he showed the growing perimeter of the quarantine. He traced the location of the center of the disaster.

Then he leaned again toward his audience. "Listen, now," he said, "for the world cannot sustain this torture."

He took a deep breath and he put the full force of his being into his words.

"Witches of the world, unite," he said, "to make it clean, clean, clean, Witch clean—NOW!"

The final word was out before the network censor reached the cut-off switch.

The President and his cabinet put the country on a double alert. Russia had cleaned up Formosa, they knew, and would hit the United States with disease and ultimatums next.

The people of the world took the story with an unexpected calm. Like Hiroshima, it was too unexpected, too big, too unimaginable. There was a hooker somewhere, and they went about their business annoyed, angry, worried, but quiet.

The papers editorialized on the question of who cleaned up Formosa —who had the answers?—and left the subject of what the possession of such a clean-up force could mean to the world, to the statesmen. They turned as quickly as possible to other matters, for nobody was sure what to think, and nobody told them what to think.

Bill Howard was off the air, of course. It didn't bother him. He had a real problem now.

We've bought a little time, he thought. A little time to grow in.

We've bought a little time from the fanatics and their statemen, from the eggheads and their politicians, from the military and the industrial and the just generally foolhardy.

We, the people of the world, have a little time now that we didn't have yesterday.

How much? He didn't know.

On this one, there'd been time to get together On this one, there'd been weeks, while the crisis built and the world faced a horrible death. This crisis had been a lengthy one. There'd been time for a man to make up his mind and try a solution.

The next one might be different. There might be a satellite up there waiting, with a button to be pushed. There were an awful lot of buttons waiting to be pushed, he told himself, buttons all over the world, controlling missiles already zeroed in on—well, on the people of the world.

The next one might occur in hours, or even minutes. The next one, the bombs might be in the air before the people even knew the buttons were for pushing.

Bill Howard got out his typewriter.

You've got a problem, you talk to a typewriter, if that's the only thing that will listen.

What's the problem? he asked himself, and he wrote it down. He started at the beginning and he told the story on the typewriter. He told it the way it had been happening.

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Now, he thought, you've got to end the story. If you leave it just "to be continued," it'll be continued, all right. Somebody will push a button one day, and that will write 30 at the end for you. Conclusion.

The problem was, in essence, quite simply stated in terms of miracles.

The way things were stewing, it'd be a miracle if the world held together long enough for unity to set in. It'd take a miracle to bring about the necessary self-restraint, which was the only possible substitute for the imposed restraint of war.

The witch power was, quite clearly, a power of the people—of the people who needed that protection, needed those miracles. And it was the power that had worked miracles.

We'll never know who does the job, he told himself. It's better that way. Like table-tipping. You can say "I didn't do it." You can even be sure you didn't do it, if you want to. But the table tips if you get enough people around the table. Ouiji writes, if at least two people have their fingers on it, so that each can say "I didn't do it."

Who are the witches? Why, they're the people, and they're not for burning. The fanatics and their statesmen, the eggheads and their politicians, the brains and the brain trusts and the world-weary—they're for burning, but not the witches. Which witch is a witch? Doesn't matter.

An hour later, Bill Howard sat down to the typewriter again. He'd stated the general problem—but now he had a specific problem, and, for a man in his line of business, it was a fairly straightforward problem.

He need only plot out the necessary moves so that he could call on that witch power just one more time. Just once. Just long enough to clean out the violent, rooted resistance to the idea that people had powers—and could work miracles!

THE END

IN TIMES TO COME

The cover next month is one of our picture-story covers—"Heavy Industry—1995" by an artist new to science fiction—Gene Thomas. The stockholders of the period will indeed find their pie in the sky . . . solid nickel-iron pie, theirs for the slicing!

And the lead novelette will be "A Spaceship Named McGuire," by Randall Garrett. Most ships are supposed to be feminine; McGuire, obviously, was masculine . . . for the extreme troubles he had could only be explained by a misplaced masculinity in his solid-state brain. (Completely transistorized, that is!)

The Editor.

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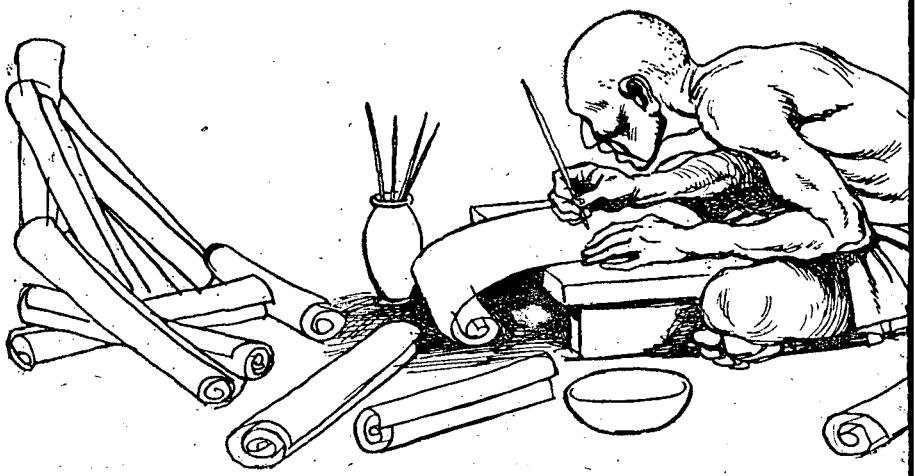
APOLLONIOS ENLISTS

By L. SPRAGUE de CAMP

"As it was in days of yore, so it will be forever-more!" And why it darned well will be.



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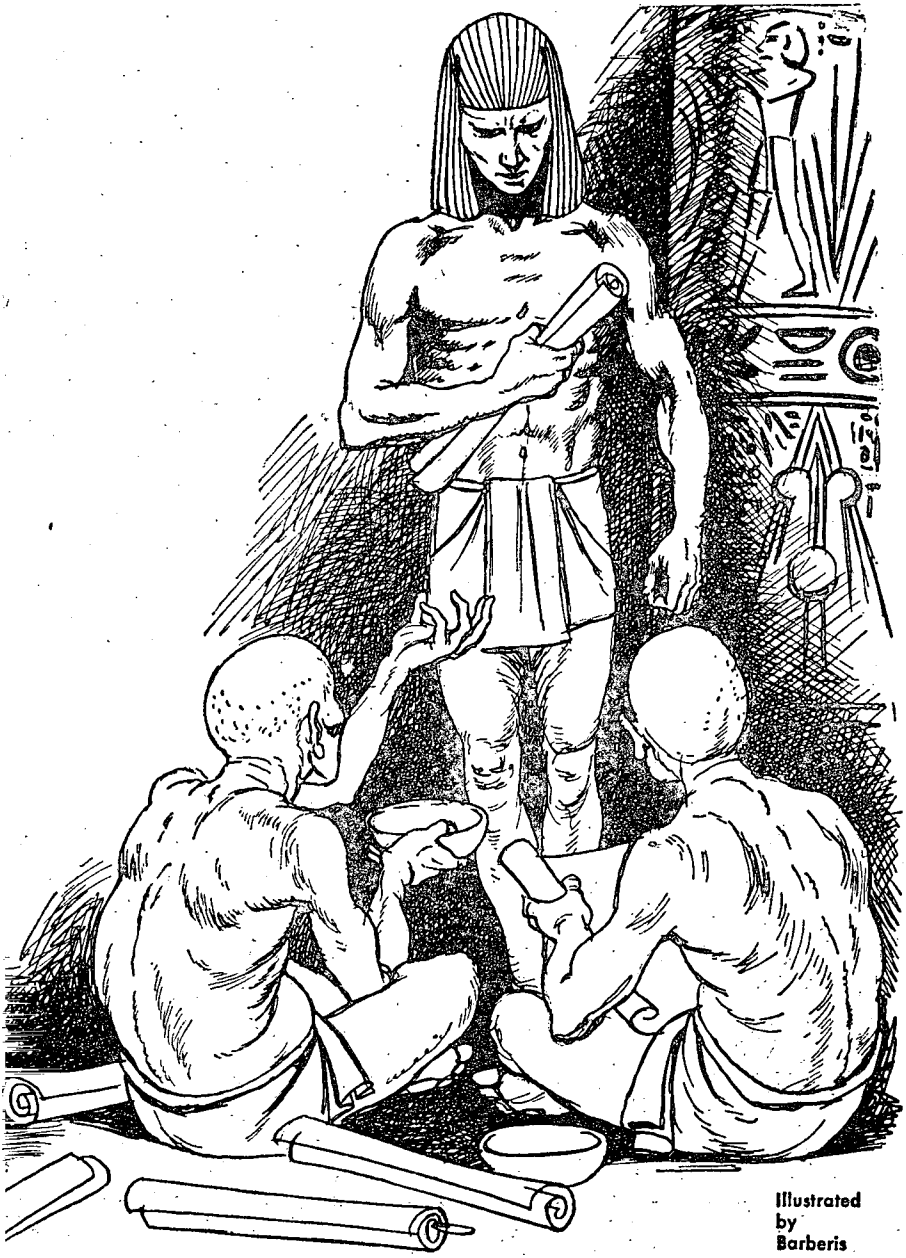

Illustrated by Barberis

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OME problems stay much the same, through the rise and fall of empires and the revolutions of belief, science, and technology. One of the stubbornest problems is that of getting any large number of people to work together effectively on one job.

Some of the tasks that men have set themselves can only be done by many hands, whether they are the building of pyramids, the digging of isthmian canals, or the construction of planetary probes. But, to enable the crew to work efficiently, they must be organized.

It does no good to gather a hundred thousand men and say: "Conquer the infidels from Spain to Samarkand!" or "Build the Atchison, Topeka & Santa Fé Railway!" They would "run in circles, scream and shout." They must be marshaled in squads, companies, divisions, teams, gangs, and crews. Each group must be placed under competent officers and given its duly assigned tasks.

This sounds easy. But sinful men have a way of not doing what they are told as soon as the boss has turned his back, or doing it wrong. When the fact comes to light, they claim they never got any such order, or they try to shift the blame to somebody else. They loaf on the job, spend their working time on their own business, sell out to the competition, and steal their employer's property. They intrigue to effect their own promotion over the heads of worthier men; they disrupt operations by venomous if childish feuds. They forget their orders, neglect their duties, shirk risks and responsibilities, play favorites, build bureaucratic empires, bully and exploit subordinates, plot against their superiors, hide their mistakes, steal credit for the successes of others, and do all they can to advance their own interests and indulge their own lusts and whims at the expense of the enterprise.

Not all men commit these sins, or civilized life would be impossible. In fact, as an ex-bureaucrat, I can testify that most so-called bureaucrats are reasonably honest and competent. But enough of them do the acts listed above, and do them often enough, so that, in any major enterprise, those in command must set up systems inspection and record-keeping. They need these systems to keep track of how the job is coming and what their officials are up to.

Here further difficulties arise. The work of any group of employees may be divided, roughly, into productive and organizational. Productive work is work that leads, directly and literally, to the group's goal, whether that be slaughtering unbelievers or erecting the Great Wall of China: lopping heads or piling rocks, as the case may be. Organizational work is everything else: supervsion, consultation, record-keeping, correspondence, public relations, and so on.

This is not to imply that productive work is somehow better, nobler, or more useful than organizational work. Every organization, to func-

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tion at all, requires both. But the rate of progress towards the goal depends directly upon the amount of productive work. No productive work, no progress.

Now, the bigger the enterprise, the greater is the amount of organizational work, both absolutely and relatively. The reason for this is that organizational work is roughly proportional, not to the number of personnel, but to the number of *relationships* within the organization. A simple diagram will make the point clear. In an organization of two men, there is but one relationship; in one of three men, three; in one of four men, six; in one of five men, ten; and so on.

Mathematically, the series is that of triangular numbers.* The formula is

$$R = \frac{(n - 1)n}{2}$$

where R is the number of relationships and n the number of workers. The curve is shaped much like a parabola. This we may call de Camp's law of bureaucracy—unless C. Northcote Parkinson has beaten me to it.

Therefore, the larger the organization, the larger relatively becomes the amount of record-keeping and consultation required to keep the segments of the organization from working at cross purposes. The volume of correspondence and the time spent in meetings and committees grows faster than the size of the organization. This explains the inordinate growth of records with size—the "paper work" and "red tape" of which everybody who deals with a large organization, public or private, complains.

In time, the point is reached where a further increase in size causes an actual decrease in the amount of productive work. At this point, the brute-strength advantages of large-scale operations vanish. These relationships apply equally well in public and in private organizations. They obtain both under capitalism and under socialism. The Yugoslav government seems to have caught a glimmering of this fact, which accounts for its program of decentralized socialism.

Moreover, when the tasks of record-keeping and inspection become formidable, the record-keepers and inspectors acquire a vested interest in their jobs. They find ways to inflate them even beyond the appalling proportions they are bound to obtain. *Quis custodiet ipsos custodes?*

A new executive is likely to demand some new weekly report from everybody. This, he thinks, is absolutely necessary to enable him to know what is going on. But he usually neglects to abolish any of the weekly reports ordained by his predecessors. In time, the workers spend whole hours each week making out

*Strictly speaking, this curve—the de Camp curve—is the series of triangular numbers displaced one interger to the right, as the upper member of the right-hand side of the equation of the triangular series is $n(n + 1)$.

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such papers, most of which are then filed and forgotten.

Some even love records and complication and committee meetings for their own sake. As an example, when I was in the Navy in the Second World War, I once had charge of a War Production Committee. Several hundred workers were organized in subcommittees to process beneficial suggestions for increasing production at the Naval Air Material Center in Philadelphia.

Unfortunately, those who issued the directive setting up these groups in governmental organizations had prescribed such a complex organization, with so many time-consuming meetings, that the men would have produced more by staying in their shops and working than by meeting to discuss suggestions for increasing production.

For a sharply-focused picture of bureaucracy in full flower, let us turn to a papyrus from Ptolemaic Egypt. This document contains most of the record of how a young man named Apollonios joined the army. At last accounts, this papyrus was in Germany.

The paper dates from the years 158 and 157 B.C. At this time Rome, having crushed Carthage, dominated the Mediterranean and was reducing Spain to subjection despite the resistance of the haughty and obstinate Spaniards. In the eastern Mediterranean, the Hellenistic kingdoms—the successor states of Alexander's empire—still stood, though the day was not distant when Rome would swallow them one by one, like grapes.

The richest of these successor states was Egypt, ruled by the line of Alexander's stocky, shrewd Macedonian comrade-in-arms, Ptolemaios—or Ptolemy—son of Lagos. Even then, the country supported several million inhabitants. The cheerful and hard-working peasantry brought forth from the fertile soil of the Delta an enormous crop of wheat, more than was needed to feed even so many mouths. By an elaborate apparatus of grinding taxation and governmental monopolies, the king squeezed this surplus out of the Egyptians and shipped it abroad to pay for his glittering court, his government, and his armed forces.

For their army, the Ptolemies did not trust the native Egyptians, who had never become reconciled to the rule of the Macedonians, or for that matter to that of the Persians before them. To furnish a permanent source of soldiery, the Ptolemies had speckled the land with little settlements of Macedonians and Greeks. These were given plots to raise wheat and cattle on, with the understanding that they could be called up at once in time of war. Such a landholder was called a *klêrouchos*. His sons, who had not yet become cleruchs themselves, might serve in another reserve corps called the *epigonoi*.

In 158 B.C., one such youth, Apollonios, set out to join the troop of *epigonoi* based on Memphis. Memphis, or Men-nofer, stood on

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the banks of the Nile a few miles above modern Cairo. It was still one of the world's greatest cities, with immense temples surrounded by a forest of colossal statues of long-dead native kings, the Rameseses and Senuserts.

Apollonios' first step was to consult with his older brother Ptolemaios, a religious recluse at the temple of Osiris. Apollonios trudged westward out of the city, along a dusty road lined with brooding sphinxes, to the temple on the edge of the desert. Beneath the sands lay the vast catacomb in which, each in a huge black coffin of massive granite, reposed the mummied bodies of the sacred Apis bulls.

At the temple, Apollonios prevailed upon his brother to write for him a petition on crackly yellow papyrus. This petition would be presented to the king, who would visit the temple on October 3rd.

The king arrived in due course. This was Ptolemaios surnamed Philometor—"Mother-lover"—the sixth Ptolemy, a reasonable, good-natured, rather indolent young man. He was engaged in a life-long struggle with his brother, the able and ruthless Ptolemaios Evergetes—"Benefactor"—nicknamed *Physkôn*—"Sausage"—from his bloated shape. Physkon later secured the throne for good, after Philometor perished in a battle in Syria.

The king went into the audience chamber with his scurrying clerks and settled himself to await petitions. These were not presented in person; the divinity affected by the Ptolemies was too sacred for that. The petitions were thrown into the room through a small window.

Apollonios' petition, written by his brother, whizzed in with the rest. A clerk picked it up and presented it. The king, when he understood it, wrote briefly on the petition: "To be done, but report on how much it will come to." Though the world's richest monarch, Philometor would not commit himself blindly to excessive expenses.

The petition, bearing the royal seal, was given back to Apollonios. It was Apollonios' responsibility to see that the document went through channels. There were no in-baskets and out-baskets, with office boys to collect and route the documents; the petitioners saw to those matters themselves.

First, Apollonios went to the office of Demetrios, the quartermaster general of the Ptolemaic army—*grammateus tôn dynameôn*—for the information requested by the king on how much the new *epigonoi* would cost the state. Demetrios' permanent office was in Alexandria, the capital; but, as the king was visiting Memphis, his heads of department had followed him thither.

Demetrios wrote on the petition a command to his clerk, Ariston, to procure the information. Apollonios bore the petition to Ariston.

Ariston addressed a question to the local office—*eklogistêrion*—of the accountant-general—*eklogistes*.

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Apollonios carried the petition, with its new addendum, to the head clerk —*grammateus*—to this office, Dioskourides.

Dioskourides wrote the information required. Apollonios took the petition back to the office of Demetrios, to a clerk named Chairemon.

When Chairemon had processed the petition again, Apollonios next bore the information with its addenda to one Apollodoros, attached to the court. On January 25, 157 B.C. Apollodoros submitted it to the king.

Note that nearly four months had elapsed between the two submissions to the king. We can imagine poor Apollonios, visiting governmental offices day after day, to be told by the clerks:

"No, sorry, young man, we haven't gotten to your paper yet. Do you see that?" (Pointing to a yard-high stack of documents.) "It's somewhere near the bottom of that pile. No, we can't consider it out of turn; every other petitioner would demand that we do the same for him. We'll get at it as soon as we can, and if you pester us it'll only take longer."

At last, the king issued two commands—*prostagmata*—that Apollonios be enrolled in the troop desired. These were given to Apollonios, one to be taken to Quartermaster General Demetrios and the other to an official called the *dioiketes,* which translates roughly as "governor" or "comptroller." The name of the *dioiketes* was Dioskourides, not to be confused with Dioskourides the clerk.

Did I say "at last"? On February 7th, Apollonios delivered one *prostagma* to Demetrios, who wrote his subordinate Sostratos, instructing him to carry out the king's command and attaching to his communication a statement by his clerks of the circumstances of the case.

Then, on the 12th, Demetrios wrote to Dioskourides the *dioiketes,* attaching to his letter a copy of his communication to Sostratos and of the statement by his clerks. The purpose of this letter to the *dioiketes* was seemingly to enable Appollonios to get from the office of the *dioiketes* the papers—*symbola*—authorizing him to draw a soldier's pay.

On February 17th, Apollonios set out to deliver this letter and three others from Demetrios concerning his enlistment. One was to Poseidonios, the *strategos* or military governor of the Memphite province. One was to Ammonios, paymaster-in-chief—*archipêretes*—and one was to Kallistratos, perhaps a clerk in Sostratos' department.

At the office of the *dioiketes,* Apollonios delivered not only the letter from Demetrios, but also the *prostagma* from the king to Dioskourides. He gave the *prostagma* to one of Dioskourides' secretaries, Ptolemaios the (*hypomnêmatographos*) or memorandum-writer. The letter from Demetrios he gave to another secretary, Epimenides the *epistolographos* or letter-writer.

Was Apollonios finished? Let him describe the following steps in his own words:

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"They were delivered to be read by the *dioiketes,* and I received back the *prostagma* from Ptolemaios the *hypomnêmatographos,* and the letter from Epimenides. And I conveyed them to Isidoros, the *autoteles,* and from him I carried them to Philoxenos, and from him to Artemon, and from him to Lykos, and he made a rough draft, and I brought that to Sarapion, in the office of the *epistolographos,* and from him to Eubios, and from him to Dorion, and he made a rough draft, and then back to Sarapion, and they were handed in to be read to the *dioiketes,* and I received them back from Epimenides, and he wrote to Nikanor, and Nikanor wrote two letters—one to Dorion the *epimelêtês*—inspector—and one to Poseidonios, the *strategos* of the Memphite nome." *

Here the record ends. We do not know just who all these officials were, or what positions they held in the Ptolemaic bureaucracy. Most were probably of Egyptian birth but Graeco-Macedonian descent and Greek speech and culture. Some, probably, were more or less Hellenized Egyptians, as the two peoples had begun to intermingle.

We do, however, get an idea of the immense amount of correspondence, paper-shuffling, and scuttling about of petitioners that took place in Ptolemaic Egypt.

Nor do we know what further steps Apollonios had to go through before he was finally enrolled. It is believed that he was. Let us hope he made a brave soldier; he was certainly a most determined one, or the run-around would have foiled him far short of his goal.

But isn't it a little discouraging to think that, in the 2100 years since the time of Apollonios, despite all our boasted progress, we have advanced so little towards the solution of the problems of large-scale organization that beset him?

*Edwin Bevan: *A History of Egypt Under the Ptolemaic Dynasty* (Lon.: 1927), p. 139.

Note: It appears that Mr. de Camp has neglected to consider the second order complexities introduced in proliferating organization. When the number of relationships between individuals exceeds a certain modest number, a second level organization becomes necessary to insure these relationships themselves, as well as the personnel behave. This level is currently known as "an investigating committee." There *should be* only one line of relationship between two individuals, but unless carefuly watched, this splits into two or more, known as a "kick-back" or "feedback circuit". Thus the relationships shown by the de Camp formula represent, actually, an unattainable—in practice—lower limit.

The Editor.

THE END

★ ★ ★ ★ ★

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They were the ancient and ultra-civilized and perfect race . . . and all Galactic civilization would be shaken if such as he fell . . .

FALLEN ANGEL

Illustrated by Douglas

By PHILIP E. HIGH

"BUT suppose he doesn't come back." Healey licked his lips quickly. "It could wreck everything, it might even lead to war." He looked at Gorman, eyes pleading for support.

Gorman didn't give him any. "There might be the same results if we refused. Our position is delicate, very delicate."

"But he might become an *incurable.*" Healey was beginning to look hunted. "A scandal like that— Have you considered the repercussions?"

Annister, who had been staring out of the window, hands locked behind his back, holding himself aloof, turned suddenly. "Healey, do you realize what you are saying?" His voice was so icy that Healey almost cringed.

"You are implying," said Annister, "that the Grienan Civilization is subject to the same weaknesses as our own. Was history omitted from your education, Healey? Did no one ever tell you that the Grienan people had achieved the almost perfect civilization long before the first Terran human stood erect?" He paused. "Is it necessary to continue or shall I outline— Healey, these people have *grown up,* they're beyond anything *we* could show them, they've achieved *stability.*"

Healey put his head in his hands. "Right, right, so I worry. I'm a director, remember, I follow literally thousands of these cases through." He

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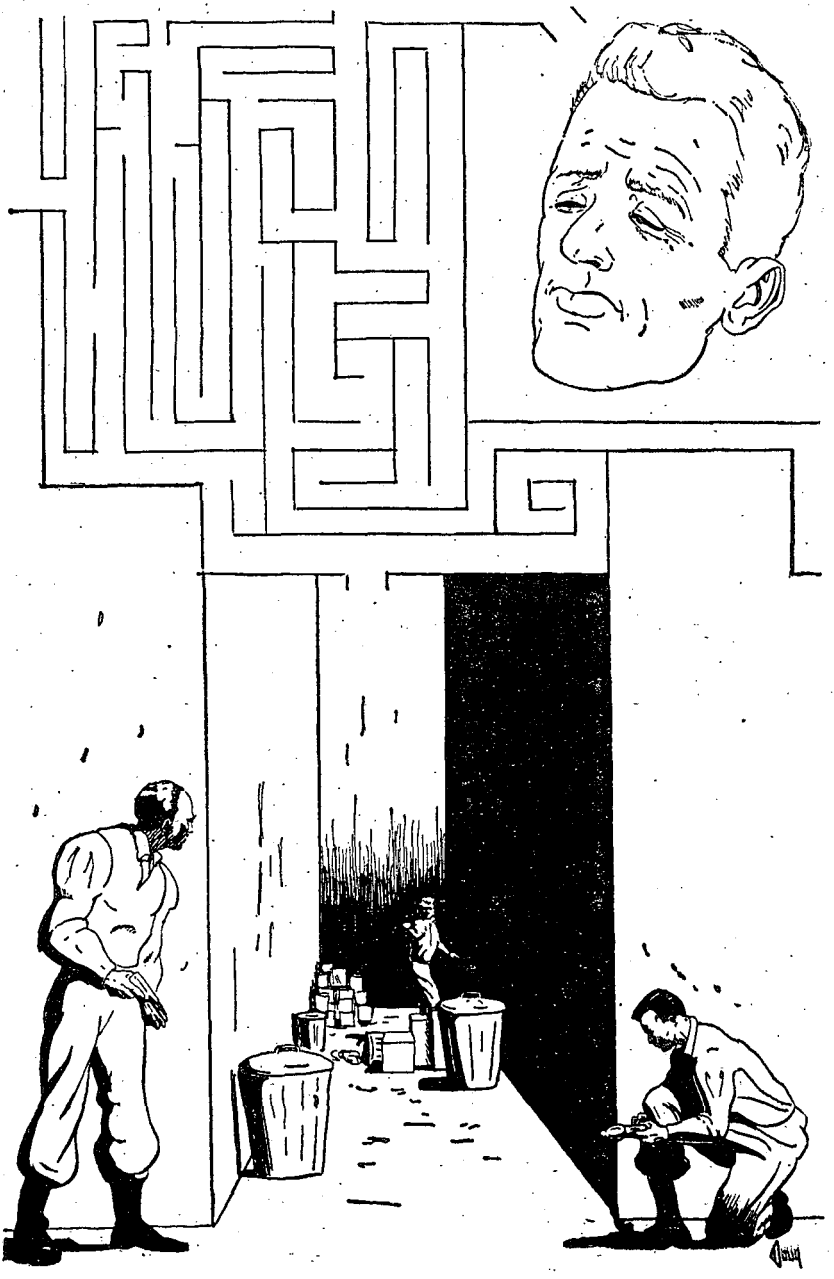

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looked up. "What about Senator Keyes—remember Senator Keyes? *He* was stable, *he* was civilized, morally unimpeachable, his integrity beyond reproach. He preached against Experiment, condemned it, but *he* never came out of it either." His hand reached for a button on his desk. "Want me to check on what he's doing now?"

Gorman said: "Save it," harshly. "Comparing a Grienan with Senator Keyes is like comparing a human being with an alley cat."

Healey made a last ineffectual stand. "*Must* he go as an entrant? Surely a conducted tour—"

"The Grienan observer," said Annister carefully, "has expressly requested, not only that he should remain anonymous, but normal entrant rights, do you understand?"

Healey nodded slowly. "*I* understand, he said, bitterly. "But do you?"

"He'll be in and out again within a week," said Gorman, suddenly comforting. "He only wants to observe and take notes."

Healey looked at him, suddenly weary. He remembered, Gorman and Annister must also remember, they'd all been there. What were they doing—trying to fool themselves?

"When does he get here?" he asked tiredly. "I suppose I must see him first—"

Healey bowed and pointed to a chair. "Please sit down . . . anything I can offer you? Drinks? Cigars?" The trouble with Grienans, he was thinking, was the fact that they were too human, not humanoid but human in the fullest sense of the word. Their metabolism, for example, was so exactly like that of a Terran that interbreeding was a certainty, not that any Grienan woman would ever condescend—

"Thank you, and no." The alien smiled charmingly and lowered himself into the opposite chair. Like all his kind, he was tall, blond and godlike with a kind of serene calm which made the average Terran feel uncomfortable. He was not, for example, like a Flang—the Flang had pointed ears with tufts on them. He was not bald like a Stuttra or blue like a Mussine. He was—well, just too kind, too gracious, too gentle, too unassailably perfect.

Healey decided he much preferred odd-looking humanoids with tufted ears. At least they had a common ground, this being looked as if he had descended from Olympus.

The alien smiled at him again. "Allow me to introduce myself, Director, I am Sarbor, chosen observer for the Advanced Psychiatric Institute of Grienan."

"Honored," said Healey, unhappily. "Anything I can do to help, please let me know."

"Thank you." The alien leaned forward. "Perhaps you would be kind enough to explain how your Experiment began. We are—and I will be frank with you—amazed at your cultural and social progress. Two hundred years ago you were . . . how shall I put it? . . . exploiting your

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section of the galaxy. Today you hold a respected position in the Council of Worlds and all this progress is due, I understand, to Experiment."

Healey warmed to him briefly. The word "exploiting" was almost a compliment. Earth, herself, used cruder terms and "armed robbery" was probably one of the mildest.

"Well—" Healey hesitated and cleared his throat, wondering whether to tone it down or let the alien have it between the eyes. He decided on the latter course, the visitor probably knew enough of Earth's history to have the broad outline.

He cleared his throat again. "Well, to put it bluntly, we had to do something or go under. On the one hand we were rampaging through the galaxy in a way which, inevitably, would have led to disaster and, on the other, we had social problems which threatened to undermine the basis of our culture. Our statistics on indictable offenses, for example, showed the appalling figure of one in three and among juveniles it was even worse. In the midst of plenty and vast technical progress, the race was falling to pieces from interior corruption. We tried everything to stop the rot, first surgery and finally mass-conditioning. The first method produced zombies, the second sent the suicide rate to impossibly high figures and the hospitals were unable to handle all the psychosis cases. We had to face the fact that, if you destroy or pervert a man's driving force, his ruling urge, you destroy the man."

Strabor nodded understandingly. "So you initiated Experiment and it proved successful?"

"Yes, on Mars, one of our nearer planets, the basis was there, of course, we'd restored the atmosphere and built cities there years before."

"And are your . . . er . . . patients sent arbitrarily?"

"On the contrary, we advertise Experiment as a source of pleasure, it's exact purpose is known only to the heads of state."

"But what of those who return?"

"Those who return," said Healey, quietly, "not only see its purpose, but are anxious to forget it. Then again, there are other inducements to draw the people—no man, or woman, may hold a responsible position in our culture unless he has been through Experiment."

"Then you have been?"

"Yes." Healey shivered slightly.

"One final question, please. On what assumption did Earth psychiatrists institute Experiment?"

Healey let him have it in a cool expressionless voice. "On the assumption of the ancient religions, that man is a reasoning beast and wholly without virtue—"

When Sarbor had gone, he called the Induction supervisor. "You've a new entrant coming in, keep an eye on him, will you?" He explained the situation.

The supervisor shook his head slowly. "Is he crazy? Haven't you explained the situation?"

"Over and over, he just won't listen."

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The other shook his head, frowning. "You know I can't alter anything for him, he'll have to take his chance with the rest. Being a god, acting like a god, even thinking like a god won't help him here, but I'll try and keep a check on him for you."

"Thanks."

"If he gets hurt I'll let you know."

Healey paled. "Hurt?"

"You remember what it's like here, don't you?" He looked at Healey with sudden sympathy. "Don't worry so, if a man volunteers to enter a den of wild beasts, he deserves to get hurt, doesn't he?" The call screen went suddenly blank.

Sarbor entered the tran-span cubicle and braced himself before pressing the E button. Terran transmitters were inclined to be rough and gave one an unpleasant wrenching feeling at the base of the spine. Terra had yet to achieve the silent and sensationless efficiency of his own culture where one just opened a door and . . .

The cubicle made a whining noise as he pressed the button, numberless blue sparks crackled from the walls, then there was a click and a red light began to blink on and off above his head.

"Trans-span complete," said a recorded voice politely. "Please open the white door."

Sarbor rubbed the base of his spine gingerly, opened the white door and found himself in a small brightly lighted office.

A bored looking clerk glanced at him and pushed across a long blue form.

"Fill in the disclaimer, please, personal details go on the back."

He waited, yawning, until the form was completed. "My detector screen tells me you're carrying a weapon. No weapons must be introduced; if you want one, there are plenty for sale."

Sarbor hesitated. Earth had no weapon like the tiny zat gun in his pocket, if he surrendered it and her scientists got working on it—

"The gun." The clerk was holding out his hand.

"It will be returned to me and kept in a safe place?"

"All surrendered goods go into a security safe, no need to worry."

Sarbor gave it to him grudgingly, hoping he was right.

The clerk looked at him. "Get another quick, huh? A lot of people hang around waiting for the new boys, they're always so easy to take." He grinned. "Well, that's all. You're on your own now. Good luck."

Sarbor inclined his head slightly, turned and left the room.

Outside he stopped and stood looking about him curiously. He was in one of the main thoroughfares of a large city but there was nothing unusual about it. It was like any Terran street on any Terran planet, garish, architecturally depressing and abominably noisy. Nonetheless, this was Experiment and, in the whole of the known galaxy, Experiment was unique. Unique as a daring and unorthodox departure in psychiatry.

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Unique in so far that only these Terran barbarians and possibly a few lesser races needed such an outlet for the grosser sides of their natures.

He became aware of the fact that a number of apparently casual strollers were watching him covertly and not a little speculatively. The clerk's warning came back to him and he looked quickly up and down the street. Ah, yes, over there!

The permanent population of the city he remembered was seven million, shifting population—approximate—twenty-three million, that meant that seven million people in his immediate vicinity were classified incurables.

He opened the door of a small narrow store rather hurriedly.

"You wis. o buy a gun, sir?" The man behind the counter was young but balding. He smiled and looked at Sarbor with alert watery eyes. "No credit and don't try and help yourself, the floor is diced with a nerve-slap circuit." He swung open the top of the counter. "How about these, sir? The very best in the city."

Sarbor selected a squat barreled Lucian, a cut-down version of a weapon with which Earth had once intimidated six pastoral worlds until the Galactic Armed Services had stepped in and put her in her place.

"How much is this, please?"

"To you, a thousand and a half."

Sarbor stared at him. "That's preposterous!" He knew enough about Earth currency to realize the weapon sold at one fifth the price.

The storekeeper shut the guns from sight abruptly and smiled. "Take it or leave it." He spread his hands. "Try some other place if you like, see what you're asked and then come back." He shook his head a little sadly. "Don't blame me if someone sticks you up in a side street, this is a tough city and you have no gun."

Sarbor's noble forehead creased in a slight frown. The man was telling the truth or part of it and it was obvious that a limited supply of arms were being sold by the unscrupulous for fantastic profits. He would undoubtedly be charged equally impossible prices elsewhere.

Slowly, and with a singular lack of grace, Sarbor paid over the greasy unhygienic notes.

"Thanks." The money disappeared under the counter with almost incredible speed. "Don't worry about the safety catch, mister, there's no primer charge—primer charge will cost you another thousand."

Sarbor left with his face a little flushed. He should, of course, have been prepared for deceit but rather than argue with such a person—He realized with a twinge of unease that on his return to Grienan there would certainly be some rather pointed questions concerning his expense account. Two thousand five hundred for a single side arm!

He shrugged off the thought. The next step obviously was to find a room from which he could carry out his duties as an observer—

"Are you new to the city?" inquired the desk clerk.

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"Yes."

"Then I'd better explain, sir. We grade our rooms, open, shut or safe. An open room is chancy, straight door, straight lock. A shut room gives you a steel door, double-action lock and unbreakable windows. A safe room has a D-field running through the walls, a contact lock and seven types of anti-larceny devices." He smiled faintly. "You pay extra for the grades, of course."

Sarbor finally chose a shut room. A mental check with his expense account assured him that the fabulous cost of a safe room was equal to six months permissible spending.

"Money in advance," said the clerk. "No checks accepted." He placed Sarbor's money in a small cubicle and flicked a switch at the side. He nodded thoughtfully. "Seems genuine—Room 210, Floor Sixteen—just follow the yellow arrow in the floor."

As Sarbor made to enter his room, a well-dressed man stepped forward quickly with his hand outstretched. "Welcome to the Plaza Hotel, sir, glad to have you with us."

"Why, thank you." Sarbor beamed at him, glad to have met someone civilized at last.

"We like to see our guests are properly welcomed, sir." He stood politely to one side as Sarbor opened the door. "If I may just step in, sir, just to assure myself . . . no, after you, sir."

Sarbor stepped forward politely.

"So sorry." The well-dressed "civilized" man pressed something hard into the other's back. "Give," he said, in a hard unpleasant voice.

The Induction supervisor seemed to be having some difficulty in meeting Healey's eyes.

"He's been stuck up," he said in an offhand voice. "Sorry I couldn't let you know sooner, only heard about it myself an hour ago."

"Stuck up! You mean robbed. When did this happen?"

"Four days ago, a week, maybe."

"You haven't kept much of a check, have you? What happened after that?"

"Well, he slept in a park a couple of nights until the delinquents found him and chased him out."

Healey felt sweat begin to stand out on his forehead. "Pull him out of there."

"I can't, you know the rules. I've a special V.I.P. pass ready but I can't use it unless he employs his right of appeal. He won't, I've had wardens tell him but he just won't take advantage of it." The Induction supervisor shook his head slowly. "I can understand it in a way; it would be admitting defeat not only before his own people but before the whole galaxy and that includes us."

Healey suppressed a sound which threatened to become a whimper. "Their ambassador is calling in two hours for a first-hand report. What's he doing now?"

"At the moment, trying the employment bureaus."

"But he can only get menial work."

"That's right."

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"That's right! What do you mean by that? Can't you understand the importance of this thing—he's a *Grienan.*"

For the first time the other met Healey's eyes. "You warned him, didn't you? Right, let him sweat it out."

The screen went black.

The clerk at the employment bureau was a quiet spoken man with sad dark eyes.

"What sort of employment—honest?"

Sarbor frowned. "Naturally I want honest employment."

"Too bad." The other shook his head. "There isn't much. Honest jobs don't pay." He ran his finger down a list. "There's a basement washer wanted at Lew's, the Imperial Hotel needs a janitor."

"How much do they pay?"

The clerk looked at him sadly. "They don't pay anything. You eat and you sleep under cover."

"But surely there is something superior to that—driving an airtaxi for example."

"You want *honest* employment, don't you? The Protective Association runs the taxi business; you'll have to charge fantastic fares to meet your dues and if you forget to pay up once—" He paused, looking at Sarbor in a peculiarly gentle way. "You're new here, aren't you? The place hasn't got you yet. I was like you at first. I thought I was a moral, stable civilized man." He shook his head. "I wasn't, few are." He studied the other in a detached way. "You're not really civilized, you know, you're as mean and as nasty as the rest of us but you haven't adjusted yet. Unconsciously you're watching yourself as you would in a civilized community. You're wondering what people might *say,* or *think* and whether they'll walk past you next time you meet. You're wondering, as you would in a normal community, whether the police will come tearing round the corner, when yo re right in the middle of—Never mind, you haven't realized yet that here, *there is no law.*".

The clerk began to shuffle some papers slowly. "Mine was a woman," he said slowly. "She made me realize there was no moral code, no restraints, no snoopers." He sighed. "She was very beautiful but she wanted a lot of things I couldn't get honestly—"

Sarbor fought down a desire to cut the reminiscences short but said, politely. "How did you obtain this position?"

The clerk smiled slightly. "I'm on my way out, six weeks probation in a minor official post once you've applied to the examining board and they decide you're on the rise."

"Suppose you're not on the rise?"

The clerk laughed softly. "You wouldn't apply, that's the beauty of this system, *you* decide when you've had enough. An incurable classifies himself, *he* decides he can never leave the kind of thing one is permitted here without fear of the law. Man, according to Harsch . . .

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you've read Harsch? No matter. Man conceals within himself a beast held in check by fear of the law and public opinion. Remove the law, remove the public and the beast is loose." He paused and looked at Sarbor thoughtfully. "Take my advice and cut loose. Still want a job?"

"Didn't you say something about a janitor?"

"Still want to do it the hard way? Right, take this slip round to the Imperial Apartments."

"Well, I'll say one thing for him," said Gorman, grudgingly. "He's got guts. Six weeks as a menial must be a record."

"Let us hope it lasts." Healey was looking haggard.

"Let us suppose," said Annister, softly, "that it doesn't."

"What!" Healey was beginning to sweat from habit.

Annister repeated the words slowly and carefully. "You assumed when the Grienans applied for entrance that there would be violent repercussions if anything went wrong. Why should there be? If Pretty Boy Sarbor falls down on this mission, do you think they're going to make a song and dance about it? Do you think they'll want to advertise the fact that one of their examples of civilized perfection went native on a barbarian planet?"

Healey closed his eyes and opened them slowly. "I don't understand you, Annister. What are you trying to do—execute the whole race of man by your own efforts?" He rubbed his eyes tiredly. "Correct me if I am wrong, but I have always understood that we owe our place in the Stellar Council to Grienan influence. Logically, then, one word from them and we'd be on the outside looking in. No trade, no cultural exchange, we'd be isolated and every alien would be holding his nose at the sight of an Earthman."

Annister's thin face flushed slightly. "My dear Healey, you don't really believe this guff about our respected position in the Stellar Council, do you? Our representatives sit behind a pillar in the last tier at the back. As for trade, the Galactics buy our stuff with the same condescension that we used to buy blankets and carved goods from Indian reservations." He laughed briefly and bitterly. "Genuine crude-primitive stuff, something to show they've been vacationing on Terra."

He paused, looking at the other almost angrily. "The rest of the Galactics, might, in time, accept us but as the Grienan dictate top policy—" He let the rest of the sentence hang, meaningly.

Healey found himself suddenly muddled. "But the Grienan culture, their example of social responsibility is obviously far ahead—"

"It is now," cut in Annister, sharply. "They were out in space while the rest of the galaxy was still crawling about on all fours, they've had *time* to grow up. All we know about their past, however, is what they want us to know. How did the Grienan Federation of worlds come

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about? Obviously they didn't evolve on seventy-eight different planets at the same time, therefore they must have *taken* them. It is even possible that some other race had them first, who can say? Oh, I'm not disputing they're unassailable examples of perfection *now* but what exactly were they like when our forebears were wondering if they could survive on dry land?"

He looked up from the rough bed and smiled. He was a big balding man with hairy arms and heavy shoulders.

"You the janitor?"

"I am and you're in my bed."

"That so?" The man stretched prodigiously. "I may be here some little time—hiding out, you understand."

Sarbor said, stiffly. "There is no room for two. This is my room, it is private so kindly leave."

The man climbed to his feet slowly. "You intrigue me, Glamour Boy, how do you propose changing the situation?" He stepped forward, placed his hand against the other's face, spread his fingers and pushed.

Sarbor staggered backward and struck his head painfully against the wall.

The intruder waited. "No reaction? A pity. Do you go quietly or shall I help you?"

"I refuse to leave." Sarbor stood stiffly erect, face pale but conscious of a curious churning feeling inside which was somehow both exhilarating and frightening. He had been warned at the Institute at home that he might encounter physical violence but he had not anticipated direct—

The intruder hit him violently in the face.

Sarbor staggered backwards, hit the wall and slid slowly down it.

He was kicked painfully in the ribs before he hit the ground but the jolting agony seemed to restore his failing senses. He rolled sideways, turning his head to avoid the boot descending on his face, gripped an ankle and tugged.

Somewhere there was a crash and a startled curse.

Sarbor stumbled shakily to his feet. There was a peculiar metallic taste in his mouth and a hot feeling inside his head which he couldn't account for. He had never lost his temper before in his life.

The other man was already on his feet. There was an angry bruise under his left eye and he was showing his teeth.

"Comedian, eh?" He rushed.

The rigid control of a thousand centuries fell from the alien in the fraction of a second. He was familiar with the weaknesses and vulnerable parts of the human body and, as a precaution, he had been given certain defensive training prior to his mission.

He chopped the man with the edge of his hand as he came in and heard him gasp. A fist jolted painfully into his eye then his hands sought and found a lock.

The Terran screamed piercingly as a bone snapped.

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Sarbor pushed him away angrily. "You dirty—" The words jammed in his throat and he leaped.

"I've had enough—"

A curious redness seemed to have invaded the alien's mind. He heard but could not understand. He struck and struck until the human went down gurgling weakly.

It took a long time for Sarbor to regain his composure and then a feeling of nausea overwhelmed him to be replaced almost instantly by fear. Had he killed the human? What uncontrollable madness had made him do such a thing?

He went down on one knee and made a swift examination. The human was still breathing but one leg was still paralyzed from a nerve-chop, the left arm was broken and the shoulder dislocated.

"Pretty," said a soft voice behind him. "Very pretty, you've saved me a great deal of trouble. I've been looking for Otto for a long time. No, don't move, my friend, these spurt-guns are apt to be rather final."

The stranger smiled. He was a well-dressed, dark-haired man with a distinguished but embittered face. "I saw the whole thing from the doorway." The gun jerked forward. "I told you, don't move. You've done me a favor but I'm not grateful enough to be careless. Ah, that's better, just relax, sit on the bed."

The gun lowered slightly. "I take it you're a do-gooder, trying to play out your time as a menial." The man shook his head slowly. "You won't, boy, you've slipped already."

He laughed softly as Sarbor flushed. "How much longer can you kid yourself, son? Why not face it, the beast is on its way out. It's tasted freedom and nothing will hold it now."

He extracted a cigarette from his pocket with his left hand, sucked it alight and looked round him cynically. "What a rat hole! All this to prove to yourself you're not like other men, pretty poor return for virtue, isn't it?"

He exhaled smoke in the general direction of the drab gray wall. "You know, despite your obvious self-deceit, I could use a boy like you. No, wait, before you give me all that stuff about principles and integrity, hear what I've got to say. This is a tough city and, whatever your principles, I suppose you want to come out of it alive." He pointed to the heavily breathing figure on the floor. "How much longer will you be able to handle mugs like that on a diet of bread and soup? Now look, be reasonable, I'm a business executive, a successful one and a successful man makes enemies. I'm offering you employment in a purely defensive capacity, nothing dishonest, nothing crooked. After all, guards are employed on the best of regulated worlds, I'm told. That's all I'm asking you to be, a guard and nothing more. If you don't like it or, if it upsets your principles, you can always quit and come back here."

Sarbor looked about him jerkily, startled to find himself tempted, horrified to find himself arguing with

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his conscience, the highly developed, deeply conditioned conscience imposed by thousands of generations of rigid self-control.

He knew the man was lying. He knew the carefully chosen words were deliberate snares to undermine his resolution and yet— To get out of this stinking room, to get away from the sound of drunken fights in the room above. He looked about him, at the dull peeling walls, at the bent pipe which you couldn't turn off and from which the greenish syntha-soup —his unchanging diet—dripped constantly into a plastic bowl. To breath clean air, to change his clothes, to bathe, to shower, to feel *clean*.

"I'll give you," said the man. "One thousand a week as a beginning, you may have a five hundred retaining fee here and now."

"And what," asked the Grienan ambassador, "is our observer doing now?"

Healey stared past him. "He's . . . he's strong arm to an incurable."

"A what, please?"

"I'm sorry—he's become a bodyguard to a permanent inmate."

"And this is dangerous?"

"He might suffer physical injury—yes."

The ambassador sighed and said, gently: "The Institute responsible for his assignment is not overly concerned with his physical welfare, director." He leaned forward slightly. "Please do not distress yourself, the Grienan Administration appreciates fully that *you* are not responsible."

Healey said: "Thank you." And resisted a temptation to mop sweat from his face.

"Now, I may rely on you to be absolutely frank?" The ambassador was smiling again.

Healey felt the muscles in his throat tighten, he had a good idea what was coming. Would no one help him, did he have to carry the whole thing alone? He looked at Gorman—Gorman seemed lost in contemplation of his fingernails. Annister, hands locked behind his back, was looking out of the window.

Healey heard himself say: "Of course." And then, strangely, a perverse courage seemed to rise inside him. You couldn't stall forever and if the alien wanted the truth so badly then he was going to get it.

"Our chief interest," said the ambassador, "lies in the moral well-being of our observer and his mental state. We feel sure, director, that in this particular case, you will be outspokenly frank."

This was it! Healey squared his shoulders slightly. "As you wish, sir." He cleared his throat. "Your observer has undergone the first—we call it stripping—due to the impact of Experiment on his personality and is at the rim of the cycle."

"You have, perhaps a simpler explanation, please."

"Well"—Healey hesitated for only a moment—"Experiment releases the inhibitions, when he let's go of them we say he's at the rim of the cycle. It's like a whirlpool and, at the moment, he's on the outer fringe. He

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doesn't realize yet, consciously, that he's let go and is slowly spinning round closer and closer to the vortex."

"You suggest that he may be sucked down?"

Healey faced him directly and without fear. "He will be, experience has taught us, that once the process has begun, reversal of order is impossible. Ominous as that may sound, it is, from the larger view, unimportant. What is important is whether, having gone under, he will come up again."

"And you, yourself, cannot say?"

Healey shook his head. "Not yet, it is far too early. After a few more months, after we have analyzed his psych-graphs and tendency figures we can make tentative predictions but even then we can only offer a sixty per cent degree of accuracy."

"I see." The ambassador drummed slender fingers on the arm of his chair. "You appreciate, director, the delicate position in which this occurrence places my race?"

Healey took a deep breath and laid both hands flat on the surface of his desk. "Mr. Ambassador, my government did its utmost to dissuade you."

"Please." The ambassador shook his head, his fine, almost beautiful face intent and serious. "You misunderstand me, completely, director. This is no longer a political issue but a racial one and in no way involves your people. We, the Grienan, must examine ourselves in the light of revelation. We must, from rightness alone, question our position of leadership in the galaxy and, if necessary, surrender it to a more competent race. If we find—and present circumstances seem to indicate—we are unfit for the high places in the Council then it is our moral duty to declare it."

Healey stared at him. The alien was sincere, absolutely sincere, no wonder they had held their position so long, they *had* grown up. He suffered a slight feeling of guilt, maybe he should have toned it down a bit.

The alien shook his head slowly and a little sadly. "So many thousands of generations—the right training, the right thinking—We thought the beast was dead but we had only buried him deeper than most." He looked at Healey in a strangely intent way. "He was the best of our race, you know, the most perfect specimen we could find, our chosen—"

He crouched in the alley, waiting. He knew Marley's group would have no mercy and give no quarter, courage and physical strength had no meaning now. He was trapped and the only way to get out was to shoot his way out. Unconsciously his fingers tightened on the gun, perhaps they'd be stupid enough to try and rush him.

He had forgotten his moral upbringing and the sanctity of human life. It was kill or be killed and he knew he was going to kill.

A shadow fell on the tall building at the end of the alley. Someone was

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crouched by the lights at the corner. Quickly he drew himself deeper into the shadows and raised the gun in readiness.

He knew, but had forgotten, that he was a unit in an experiment which had begun with a group almost seven centuries ago.

The children selected for the experiment had been violent, intractable and destructive. The psychiatrists had turned them loose with hammers in a specially constructed building full of breakables with instructions to do as they pleased.

On the first day the house had echoed to the crash of hammers, the tinkling of broken mirrors and the rending of furniture. A week later they were less enthusiastic and, within a month, heartily sick of destruction. Further, they had become better behaved than other children and far more responsive to reason.

"We know where you are, Glamour Boy, come out quietly and maybe we can fix a reasonable deal."

Something thin, like a short stick, protruded suddenly from behind the building and he flicked the adjustment lever quickly to "Spread."

The "stick" and, presumably, part of the hand holding it puffed abruptly to flame as he squeezed the trigger. In the distance a man screamed.

He nodded to himself jerkily with relief, sweat beading his forehead. The stick had been a plus-mike which would have picked up his respiration pattern and heart beat. A few seconds more and an acousta bomb would have come up the alley.

An angry voice shouted: "Listen, we've got a blinder here. If you don't come out, we'll use it. You want the girl to get it, too? We'll give you thirty seconds. Come out with your hands up and the girl goes free."

He smiled twistedly. That was one thing they didn't know—Lenie had got clear. Lenie, who had blue-black hair, was tiny, elfin and gay and not at all like the blond statuesque women of his home world.

He knew but had forgotten that Terran anthropologists had found primitive cultures where promiscuous sexual life in late adolescence had not only been permitted but actively encouraged. Strangely, the youngsters had quickly tired of their freedom and settled down with permanent partners. To the surprise of the experts, these unions had been life-long with far greater depth and endurance than the orthodox contracts of moral communities.

"Twenty seconds, boy, better drop that gun and tell us you're coming out."

Someone risked a sprint across the mouth of the alley and the gun in his hand thudded once.

The running figure staggered in mid-stride, crumpled slowly forwards and lay still.

Sarbor did not know that in Experiment there was no *permanent* death. Resuscitation Squads took care of that. Restoration and return to normal life took several months by which time the population had shifted, power groups had changed or moved elsewhere and the killers

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seldom knew that their victims had been restored to life.

"All right, boy, your time's up. We're coming in to get you."

He stiffened, waiting and flicked a tiny adjustment at the base of the gun butt. There were certain compensations in being the product of a superior technology, this Terran weapon was crude but with certain adjustments— He watched barrel, magazine and firing mechanism rise from the casing on a thin pivot and swing slowly from side to side.

Something metallic hissed past him, struck the wall and detonated with a peculiar singing sound. He knew it was no use closing his eyes, strangely the weapon was a sonic device which directly affected the optic nerves. He would be totally blind for twelve hours.

There was a scuffing sound in the distance and approaching footsteps.

In his hand the weapon swiveled on it's tiny pivot, tracking the nearest target and centered with a click.

He squeezed the trigger. There was a faint thud and something metallic slithered on the road.

"He's got Ben—"

"He can't see us. Fire into those shadows."

He fired three times.

A frightened voice shouted. "Get out of here, he can see, *get out!*"

Running footsteps faded into the distance leaving a strange silence.

He waited a long time before he moved and then he began to feel his way along the wall towards the street, his blind eyes staring into the darkness.. Lenie would come, Lenie would get help somewhere, somehow. He suspected she was on the way out and would soon apply for an exit permit. She, like himself, was sickened by absolute freedom.

At the far end of the alley an airtaxi whined to a stop.

"Sarbor! Sarbor!"

"Here, Lenie, here."

Around them, life in the city went on. The drunken orgies, the wild parties, the rackets, the violence, the juggling for power. The adults of the race had been let loose to do their worst and, like the seven-year-olds, had gone to town in a big way. It was strange how soon the majority wearied of their freedom.

The Grienan ambassador shook his head slowly. "We made a mistake which would have been obvious to a wiser race—we became smug." He looked again at the charts Healey had produced for him. "He went down but he came up, none shall blame a man who has fallen and climbed to his feet again."

He looked at Healey thoughtfully. "Had he become an incurable, the Stellar Council would have collapsed and we, as a race, finished. Do you understand what I mean?"

Healey nodded. He understood perfectly. The contempt of the galaxy would have been pitiless. There is nothing quite so abject as a fallen Angel.

THE END

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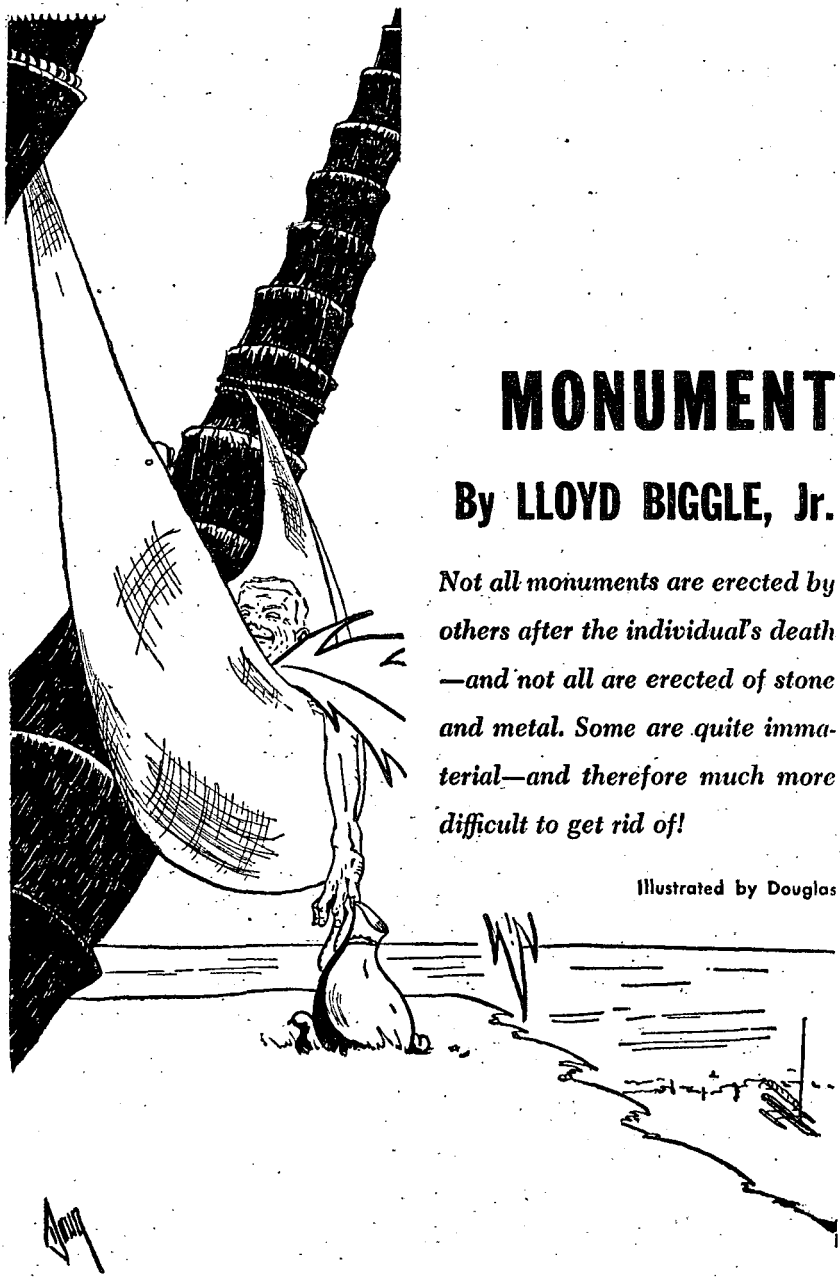

MONUMENT

By LLOYD BIGGLE, Jr.

Not all monuments are erected by others after the individual's death —and not all are erected of stone and metal. Some are quite immaterial—and therefore much more difficult to get rid of!

Illustrated by Douglas

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T CAME to O'Brien quite suddenly that he was dying.

He was lying in a sturdy, woven-vine hammock, almost within reach of the flying spray where the waves broke in on the point. The caressing warmth of the sun filtered through the ragged *sao* trees. The shouts of the boys spearing fish off the point reached him fitfully on playful gusts of fragrant wind. A full gourd hung at his elbow. He had been half-dozing in a drowsy state of peaceful contentment when the realization snapped coldly across his idle thoughts and roused him to icy wakefulness.

He was dying.

The fact of death disturbed him less than the realization that he should have thought of it sooner. Death was inevitable from the instant of birth, and O'Brien was a long lifetime from babyhood. He wondered, sometimes, just how old he might be. Certainly a hundred, perhaps even a hundred and fifty. In this dreamy land, where there were no seasons, where the nights were moist and the days warm and sunny, where men measured age by wisdom, it was difficult to keep an alert finger on the elusive pulse of time. It was impossible.

But O'Brien did not need a calendar to tell him he was an old man. The flaming-red hair of his youth had faded to a rusty gray. His limbs were stiff each morning from the night's dampness. The solitary hut he had built on the lovely rise of ground above the point had grown to a sprawling village, as his sons, and grandsons and great-grandsons, and now great-great grandsons, brought home their wives. It was the village of *langru,* the village of fire-topped men, already famous, already a legend. Maidens were eager to mate with the young men of fire, whether their hair was red or the native blond. The sturdiest youths came to court the daughters of fire, and many of them defied tradition and settled in the village of their wives.

O'Brien had enjoyed a good life. He knew he had lived far beyond the years that would have been his in the crazed rush of a civilized land. But he was dying, and the great dream that had grown until it shaped his life among these people was beyond his reach.

He jerked erect, shook his fist at the sky, and shouted hoarsely, in a long-unused language. "What are you waiting for? What are you waiting for?"

As soon as O'Brien appeared on the beach, a dozen boys came splashing towards him. "Langri!" they shouted. "Langri!"

They leaped about him excitedly, holding up fish for his approval, waving their spears, laughing and shouting. O'Brien pointed up the beach, where a large dugout canoe was drawn up on the sand.

"To the Elder," he said.

"Ho! To the Elder! Ho! To the Elder!"

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They raced ahead of him, scrambling furiously for places because the canoe would not hold them all. O'Brien waded into the melee, restored order, and told off the six he wanted for paddlers. The others raced into the surf after the canoe, swimming around and under it until the paddlers got up speed.

The boys shouted a song as they dipped their paddles—a serious song, for this was serious business. The Langri wished to see the Elder, and it was their solemn duty to make haste.

O'Brien leaned back wearily and watched the foam dancing under the outriggers. He had little taste for traveling, now that his years were relentlessly overtaking him. It was pleasant to lounge in his hammock with a gourd of fermented fruit juice, acting the part of a venerable oracle, respected, even worshipped. When he was younger he had roamed the length and breadth of this world. He had even built a small sailing boat and sailed completely around it, with the only tangible result being the discovery of a few unlikely islands. He had trekked tirelessly about the lone continent, mapping it and speculating on its resources.

He knew that he was a simple man, a man of action. The natives' awe of his supposedly profound wisdom alarmed and embarrassed him. He found himself called upon to settle complex sociological and economic problems, and because he had seen many civilizations and remembered something of what he had seen, he achieved a commendable success and enjoyed it not at all.

But O'Brien knew that the sure finger of doom was pointing directly at this planet and its people, and he had pondered, and debated with himself on long walks along the sea, and paced his hut through the hours of misty night while he devised strategems, and finally he was satisfied. He was the one man in the far-flung cosmos who could possibly save this world that he loved, and these people he loved, and he was ready to do it. He could do it, if he lived.

And he was dying.

The afternoon waned and evening came on. Fatigue touched the boys' faces and the singing became strained, but they worked on tirelessly, keeping their rhythm. Miles of coast drifted by, and scores of villages, where people recognized the Langri and crowded the shore to wave.

Dusk was hazing the distant sea and purpling the land when they made the turn into a shallow bay and rode the surf up onto a wide, sloping beach studded with canoes. The boys leaped up and heaved the canoe far up onto the beach. They slumped to the sand in exhaustion, and bounced up a moment later, beaming with pride. They would be guests of honor, tonight, at any hut in the village they chose to visit. Had they not brought the Langri?

They moved through the village in a procession that gained in numbers with each hut they passed. Respectful adults and awed children stepped

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forth and solemnly followed after O'Brien. The Elder's hut was apart from the others, at the top of the hill, and the Elder stood waiting there, a smile on his wrinkled face, his arms upraised. Ten paces away O'Brien stopped and raised his own arms. The villagers watched silently.

"I greet you," O'Brien said.

"Your greetings are as welcome as yourself."

O'Brien stepped forward, and they clasped hands. This was not a native form of greeting, but O'Brien used it with the older men who were almost life-long friends.

"I ordered a feast in the hope that you would come," the Elder said.

"I came in the hope there would be a feast," O'Brien returned.

With the formalities thus satisfied, the villagers began to drift away, murmuring approval. The Elder took O'Brien's arm and led him past the hut, to a small grove of trees where the hammocks hung. They stood facing each other.

"Many days have passed," the Elder said.

"Many," O'Brien agreed.

He looked at his friend closely. The Elder's tall, gaunt frame seemed as sturdy as ever, but his hair was silvery white. The years had traced lines in his face, and more years had deepened them, and dimmed the brightness in his eyes. Like O'Brien, he was old. He was dying.

They settled themselves in the hammocks, and lay facing each other. A young girl brought gourds to them, and they sipped the drink and rested in silence as the darkness closed in.

"The Langri is no longer a traveler," the Elder said.

"The Langri travels when the need arises," O'Brien said.

"Let us then talk of that need."

"Later. After we have eaten. Or tomorrow—tomorrow would be better."

"Tomorrow, then," the Elder said.

The girl returned with pipes and a glowing coal, and they smoked in silence while fires leaped high in the darkness and the rippling night breeze brought the savory odors of the coming feast blended with the crisp sea air. They finished their pipes and solemnly took their places of honor.

In the morning they walked together along the shore, and seated themselves on a knoll overlooking the sea. Sweet-scented blossoms crowded up around them, nodding in the wind. The morning light sparkled brightly on the leaping water. Brightly-colored sails of the fishing fleet were pinned flower-like to the horizon. To their left, the village rested sleepily on the side of the hill, with only three thin plumes of smoke drifting upwards. Small boys romped in the surf, or walked timidly along the beach to stare up at the Elder and the Langri.

"I am an old man," O'Brien said.

"The oldest of old men," the Elder agreed promptly.

O'Brien smiled wanly. To a native, *old* meant *wise*. The Elder had

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paid him the highest of compliments, and he felt only frustrated—weary.

"I am an old man," he said again, "and I am dying."

The Elder turned quickly.

"No man lives forever," O'Brien said.

"True. And the man who fears death dies of fear."

"My fear is not for myself."

"The Langri has no need to fear for himself. But you spoke of a need."

"Your need. The need of all your people, and of my people."

The Elder nodded slowly. "As always, we listen well when the Langri speaks."

"You remember," O'Brien said, "that I came from afar, and stayed because the ship that brought me could fly no more. I came to this land by chance, because I had lost my way, and because my ship had a serious sickness."

"I remember."

"Others will come. And then others, and then more others. There will be good men and bad, but all will have strange weapons."

"I remember," the Elder said. "I was there when you slew the birds."

"Strange weapons," O'Brien repeated. "Our people will be helpless. The men from the sky will take this land—whatever they want of it. They will take the beaches and even the sea, the mother of life itself. They will push our people back to the hills, where they will not know how to live. They will bring strange sickness to our people, so that entire villages lie in the fire of death. Strangers will fish the waters and swim. There will be huts taller than the tallest trees and the strangers that crowd the beaches will be thicker than the fish that run off the point. Our own people will be no more."

"You know this to be true?"

O'Brien inclined his head. "It will not happen this day, or the next, but it will happen."

"It is a terrible need," the Elder said quietly.

O'Brien inclined his head again. He thought, *This lovely, unspoiled land, this wonderful, generous, beautiful people* . . . A man was so helpless when he was dying.

They sat in silence for a time, two old men in the bright sunshine, waiting for the darkness. O'Brien reached out and plucked the blossoms near him, one at a time, and crushed their fragile whiteness in his hands.

The Elder turned a grave face on O'Brien. "Cannot the Langri prevent this thing?"

"The Langri can prevent it," O'Brien said, "if the men from the sky come this day or the next. If they delay longer, the Langri cannot prevent it, because the Langri is dying."

"Now I understand. The Langri must show us the way."

"The way is strange and difficult."

"We shall do what we must do."

O'Brien shook his head. "The way is difficult. Our people may not be able to follow, or the path the Langri chooses may be the wrong one."

"What does the Langri require?"

O'Brien stood up. "Send the young

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men to me, four hands at a time. I will choose the ones I need."

"The first will come to you this day."

O'Brien gripped his hand, and moved quickly away. His six great-great grandsons were waiting for him on the beach. They hoisted the sail, for the wind was at their back on the return trip. O'Brien looked back as they moved swiftly out of the bay. The Elder stood motionless on the knoll, hands upraised, as long as O'Brien could see him.

O'Brien did not know the official names of the planet, or even if it had an official name. He was only a dumb mechanic, but a good one, and he had been knocking around in space since he was twelve. He had gotten tired being the bottom rung of everyone's ladder, so he had gotten himself a battered government surplus survey ship, and scraped together some supplies, and given a dispatcher five hundred credits to be looking the other way when he took off.

He had no right to be piloting a spaceship or any other kind of ship, but he'd seen it done enough to think he knew the fundamentals. The ship had a perverse streak that matched his own. He had to exhaust his profanity and kick the control panel a few times before it would settle down and behave itself. Pointing it in the right direction was another matter. Probably any bright high school kid knew more about navigation than he did, and his only support came from an out-of-date "Simplified Astrogation for the Layman." He was lost ninety per cent of the time and only vaguely aware of his whereabouts the other ten per cent, but it didn't matter.

He wanted to see some places that were off the usual space lines, and maybe do a little prospecting, and enjoy being his own boss as long as his supplies lasted. He couldn't stop at any of the regular ports, because the authorities would take one look at his nonexistent license and ground him permanently. But some of the smaller, privately owned ports were always in need of a good mechanic, and he could slip in for a night landing, work a couple of weeks until he'd earned enough to get his ship restocked, and slip back into space without exciting anyone.

He did his prospecting, too, nosing about on dozens of asteroids and moons and small planets that were either undiscovered or forgotten. Quite inexplicably he struck it rich. He stuffed his little ship with platinum ore and started back to civilization to realize his fortune.

As usual he was lost, and he wandered aimlessly through space for a month, conserving his fuel and nursing his worn engines. This planet had seemed his best chance, and it was almost his last chance because a faulty fuel gauge mislead him, and he ran out of fuel and crashed on landing.

The natives made him welcome. He became a hero by turning his flaming pistol on a large species of bird that sometimes preyed on chil-

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dren. He used up all of his magazines, but he rendered the bird extinct. He explored the lone continent, and found deposits of coal and some metals—insignificant, but enough to lead the natives immediately into a bronze age. Then he turned to the sea, gave the canoes outriggers and sails, and continued his exploring.

By that time he had lost interest in being rescued. He was the Langri. He had his wives and his children. His village was growing. He could have been the Elder at a relatively young age, but the idea of him, an alien, ruling these people seemed repugnant to him. His refusal enhanced the natives' respect for him. He was happy.

He also began to worry. The planet had such scanty natural resources that no one would be attracted to it by prospective plunder. It had another resource that rendered it priceless.

It was a beautiful world. Its beaches were smooth and sandy, its waters were warm, its climate admirable. To the people of the myriads of harsh worlds whose natural riches attracted large populations, dry worlds, barren worlds, airless worlds, it would be a paradise. Those who could leave their bleak atmosphere domes, or underground caverns, or sand-blown villages for a few days in this sweet-smelling, oxygen rich atmosphere could face their lives with renewed courage.

Luxury hotels would line the beaches. Lesser hotels, boarding houses, cottages would press back into the forest. Millionaires would indulge in spirited bidding for choice stretches of beach on which to locate their mansions. The beaches would be choked with vacationers. Ships would offer relaxing sea cruises. Undersea craft would introduce the vacationers to the fantastically rich marine life. Crowded wharves would harbor fishing boats for hire. Industries would grow up to supply the tourists. It would be a year-round business because the climate was delightful the year around.— A multi-billion credit business.

The natives, of course, would be crowded out. Exterminated. There were laws to protect the natives, and an impressive colonial bureau to enforce them, but O'Brien knew too well how such laws worked. The little freebooter who tried to pick up a few quick credits received a stiff fine and a prison term. The big-money operators incorporated, applied for charters, and indulged in a little good-natured bribery. Then they went after their spoils under the protection of the very laws that were supposed to protect the natives.

And a century or two later scholars would be bemoaning the loss of the indigenous population. "They had a splendid civilization. It's a pity. It really is."

The young men came from all the villages. They swung lightly down the coast with flashing paddles and rollicking songs. Twenty at a time they came, tall, bronze, their blond hair bleached white by their days in

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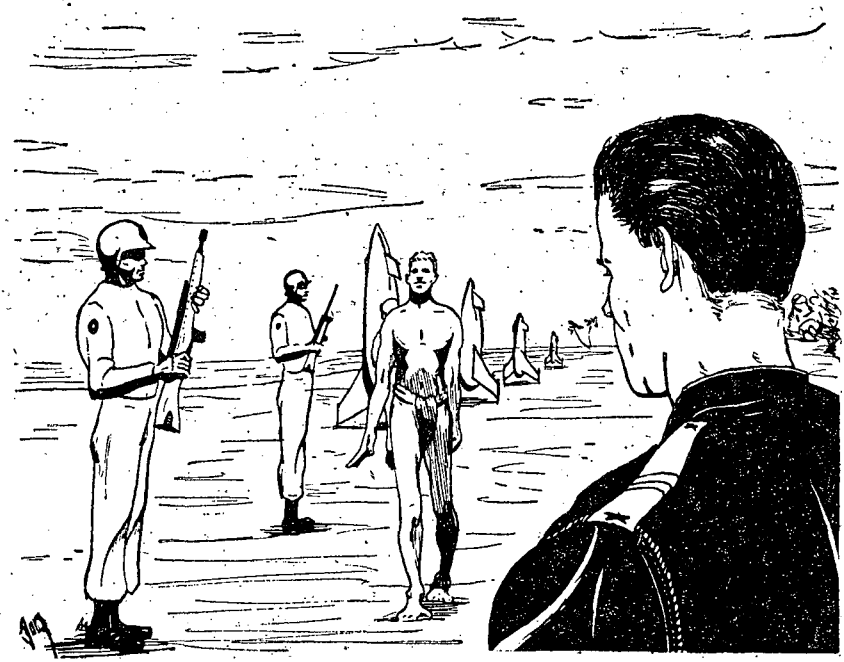
the sun. They beached their canoes along the point, and moved with awed reverence into the presence of the Langri.

His questions startled them. They grappled awkwardly with strange ideas. They struggled to repeat unutterable sounds. They underwent tests of strength and endurance. They came and went, and others took their places, and finally O'Brien had chosen a hundred.

Back in the forest O'Brien built a new village. He moved in with his hundred students, and began his teaching. The days were too few and too short, but they worked from dawn until darkness, and often far into the night, while the other natives loyally brought food, and the villages in turn sent women to prepare it, and the entire people watched and wondered and waited.

O'Brien taught what he knew, and improvised when he had to. He taught language and law and science. He taught economics and sociology and military discipline. He taught guerrilla warfare and colonial procedure. He taught the history of the people of the galaxy, and the young natives sat under the stars at night and stared open-mouthed at the heavens while O'Brien told of flaming space wars and fantastic creatures and worlds beyond worlds.



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The days passed, and became a year, and two years, and three. The young men brought wives to the village. The young couples called O'Brien father, and brought their first born for his blessing. And the teaching went on, and on.

O'Brien's strength waned. The damp nights left him feverish, and his swollen limbs tormented him. But he labored on, and he began to teach the Plan. He ordered practice invasion alerts, and his grim seriousness startled the natives of other villages out of their gay indolence. The plan slowly took on form and understanding.

When finally O'Brien was too weak to leave his hammock he gathered the most brilliant youths about him and the lessons continued.

One bright afternoon O'Brien lost consciousness. He was carried back to his village, to his favorite grove near the sea. Word went out along the shore: the Langri is dying. The Elder came, and the head men of all the villages. They placed a woven canopy over his hammock, and he lived on through the night, unconscious and breathing laboriously, while the natives waited humbly with heads bowed.

It was morning when he opened his eyes. The sea was lovely in the soft sunlight, but he missed the shouts of the boys rollicking in the surf. *They know I'm dying,* he thought.

He looked at the saddened faces of the men about him. "Friends . . ." he said. And then, in a tongue that was strange to them, he whispered, "before God—before my God and theirs—I have done my best."

The fire of death leaped high on the beach that night, and the choked silence of mourning gripped the villages. The next day the hundred young men moved back to their village in the forest to grapple doubtfully with the heritage the Langri had left to them.

II

The *Rirga* was outbound on a routine patrol mission, and Commander Ernst Dillinger was relaxing quietly in his quarters with his robot chess player. He had neatly trapped the robot's queen, and was moving in for the kill when his communication officer interrupted.

He saluted, and handed Dillinger a message. "Confidential," he said.

Dillinger knew from his apologetic manner and the speed with which he made his departure that the news was not good. The man was already closing the door when Dillinger glanced at the message and uncoiled himself in an anguished bellow. The bellow brought him scurrying back.

Dillinger tapped the paper. "This is an order from the sector governor."

"Yes, sir." The communications officer made it sound as if that information was somehow news to him.

"Ships of the fleet do not take orders from bureaucrats and fly-by-night politicians. You will kindly inform his highness that I received my orders from Fleet Headquarters, that

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I am currently on a third-priority assignment, and that the fact that I am passing through one corner of his alleged territory does not give him automatic control over my movements."

The communications officer fumbled, and produced a notebook. "If you will dictate the message, sir—"

"I just gave you the message. You're a communication officer. Haven't you got enough command of language to tell him to go to hell in a flattering way?"

"I suppose so, sir."

"Do so. And send Lieutenant Protz in here."

The communications officer made a panicky exit.

Lieutenant Protz sauntered in a moment later, met Dillinger's foreboding scowl with a grin, and calmly seated himself.

"What sector are we in, Protz?" Dillinger asked.

"2397," Protz said promptly.

"And how long are we going to be in Sector 2397?"

"Forty-eight hours."

Dillinger slammed down the message. "Too long."

"Some colony in trouble?"

"Worse than that. The sector governor has lost four scratchers."

Protz straightened up and swallowed his grin. "By all that's spaceworthy! Four of them? Look—I have a leave coming up next year. I'm sorry I won't be able to see you through this, but I wouldn't give up that leave if it were a dozen scratchers. You'll just have to find them without me."

"Shut up!" Dillinger snarled. "Not only does this oaf of a governor lose four survey ships at one crack, but he has the insufferable nerve to order me to start looking for them. *Order,* mind you. I'm letting him know that we have a chain-of-command procedure in the space navy, but he'll have time to get through to headquarters and have the order issued there. They'll be happy to oblige, of course, as long as the *Rirga* is in the general area."

Protz reached over and took the paper. "So they send a battle cruiser to look for four survey ships." He read, and chuckled. "It could be worse. We might find them all in the same place. The 719 turned up missing, so they sent the 1123 to look for it. And then they sent the 572 after the 719 and the 1123, and the 1486 after the 719 and the 1123 and the 572. Lucky thing for them we happened to be here. That nonsense could have gone on indefinitely.

Dillinger nodded. "Seems curious, doesn't it?"

"We can rule out mechanical failure. Those scratchers are dependable, and four of them wouldn't bubble out at the same time. Do you suppose maybe one of these worlds is civilized to the point of primitive space travel, and is picking them off?"

"Possibly," Dillinger said. "But not very likely. Not more than a tenth of the planets in this sector have been surveyed, but the entire sector has been charted, and the fleet used it for training maneuvers a couple of times. If one of these worlds has developed

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space travel, someone would have noticed it. No—I figure we'll find all four scratchers on one planet. The same trouble that caught the first caught the others. Whether we can do any good remains to be seen. An unsurveyed world can offer some queer kinds of trouble. Go down to the chart room, and see if you can narrow down the search area. We might even be lucky."

Twenty-four hours later Fleet Headquarters made it official, and the *Rirga* altered course. Protz paced the chart room, whistling cheerfully and making deft calculations on a three-dimensional slide rule. A technician was verifying them on a battery of computers, and having trouble keeping up.

Dillinger scowled at the co-ordinates Protz handed to him. "You figure this system is as good a bet as any?"

"Better than any." Protz stepped to the chart. "The 719 last reported in from here, on course—so. There are three possibilities, but only this one is directly on its course. I'd say it's ten to one that this is it. There shouldn't be more than one habitable planet. We can wind this up in a couple of days."

Dillinger snorted. "Only one planet to search for four scratchers! You've been in space too long. Have you forgotten how big a planet is?"

"Like you said, we might be lucky."

They were lucky. There was one habitable planet, with a single, narrow, sub-tropical continent. On their first observation they sighted the four glistening survey ships, parked neatly in a row on a low rise overlooking the sea.

Dillinger studied the observation data, squinted at the film strips, and exploded. "Damn! This will cost us a week, anyway, and those fools have just taken some time off to go fishing."

"We'll have to land," Protz said. "We can't be certain."

Dillinger looked up from the film strips, a faint smile on his face. "Sure we'll land. Take a good look at these. We'll land, and after I kick those scratcher crews in the pants, *I'm* going fishing."

The *Rirga* came ponderously to rest a thousand yards down the shore. There were the inevitable scientific tests. A security unit made a meticulous search of the landing area, and dispatched a squad to investigate the survey ships under cover of the alert *Rirga* gunners. Dillinger strode down the ramp, sniffed the sea breeze hungrily, and headed towards the beach.

Protz came up a moment later. "The scratchers are deserted. Looks as if they just walked off and left them."

"We'll have to root them out," Dillinger said. "Notify headquarters."

Protz hurried away.

Dillinger walked slowly back to the *Rirga.* The landing area was being consolidated. Patrols were pushing inland and along the shore. One signaled the discovery of a deserted native village. Dillinger shrugged indifferently, and went to his quarters.

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He poured himself a drink and stretched out on his bunk, wondering if there was anything on board that would pass for fishing equipment.

Protz's voice snapped out of the intercom. "Commander?"

"I'm relaxing," Dillinger said.

"We've found a native."

"The *Rirga* should be able to cope with one native without harrassing its commanding officer."

"Maybe I should say the native found us. He wants to speak to the commanding officer."

Dillinger's reflexes were slow. It was a full ten seconds before he sat up abruptly, spilling his drink.

"He speaks Galactic," Protz said. "They're bringing him in now. What shall we do with him?"

"Set up a tent. I'll receive him with due ceremony."

A short time later, resplendent in a ribbon-decked dress uniform, he hurried down the ramp. The tent had been set up, and an honor guard posted around it. The men were, it seemed to Dillinger, struggling to keep their faces straight. A moment later he understood why. The native was a model of bodily perfection, young, intelligent-looking. He wore only a loin cloth of doubtful manufacture. His red hair was dazzling in the bright sunlight.

Standing before him in full dress uniform, Dillinger saw the humor of the occasion, and smiled. The native stepped forward, his face serious, his manner confident. He extended his hand. "How do you do. I am Fornri."

"I am Commander Dillinger," Dillinger responded, almost automatically. He stepped ceremoniously aside, and allowed the native to precede him into the tent. Dillinger, and a number of his officers, filed after him.

The native ignored the chairs, and faced Dillinger. "It is my sad duty to inform you that you and the personnel of your ship are under arrest."

Dillinger sat down heavily. He turned to Protz, who grinned and winked. Behind him an officer failed to suppress a chuckle. Because the native had spoken in a firm tone of voice, his words carried beyond the tent. Much whispering and some ill-concealed laughter drifted in to them.

A red-headed native who possessed not so much as a dull spear had calmly walked in and placed the *Rirga* under arrest. It was a gag worth retelling—if anyone would believe it.

Dillinger ignored Protz's wink. "What are the charges?"

The native recited tonelessly, "Landing in a restricted area, willful avoidance of customs and quarantine, failure to land at a proper imigration point with official clearance, suspicion of smuggling, and bearing arms without proper authority. Follow me, please, and I will lead you to your detention area."

Protz was suddenly solemn. "He didn't learn to speak Galactic like that from the scratcher crews," he whispered. "It's only been a month since the first ship was reported missing."

Dillinger whirled on the officers

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that surrounded him. "You will kindly stop grinning. This is a serious matter."

The grinning stopped.

"You see, you idiots, this man represents civil authority. Unless there are special arrangements to the contrary, military personnel are subject to the laws of any planet which has a central government. If there are several autonomous governments . . ." He turned to the native. "Does this planet have a central government?"

"It does," the native said.

"Do you have the personnel of the survey ships under detention?"

"We do."

"Order all personnel back to the ship," Dillinger said to Protz. He said to the native, "You understand —I'll have to communicate with my superiors about this."

"On two conditions. All weapons which have been brought from the ship are considered confiscated. And no one except yourself will be permitted to return to the ship."

Dillinger turned to Protz. "Have the men stack their arms at a place he designates."

Eight days passed before Dillinger was able to get down to final negotiations. Before the conference started he asked to speak with one of the survey men. Natives brought him into the tent, tanned, robust-looking, wearing a native loin cloth. He grinned sheepishly at Dillinger."

"I'm almost sorry to see you, commander."

"How have you been treated?"

"Perfect. Couldn't ask for better treatment. The food is wonderful. They have a drink that I'll swear is the best thing in the galaxy. They built us some huts on the seashore, and told us where we could go and what we could do, and left us alone. Except for the ones that bring our food, and some fishing boats, we hardly see any natives."

"Three native women apiece, I suppose," Dillinger said dryly.

"Well, no. The women haven't come near us. Otherwise, if you're thinking of naming this planet you can call it Paradise. We've been mostly swimming and spearing fish. You should see the fish in that ocean!"

"You weren't harmed?"

"No. They took us by surprise, and disarmed us, and that was it. Same went for the other ships."

"That's all I want to know," Dillinger said.

The natives led him away, and Dillinger opened the negotiations. He sat on one side of a table, flanked by two of his officers. Fornri and two other young natives faced him across the table.

"I am authorized," Dillinger said, "to accept unconditionally your listing of fines and penalties. Four hundred thousand credits have been transferred to the credit of your government in the Bank of the Galaxy." He passed a credit memo across the table. Fornri accepted it indifferently.

"This planet's status as an independent world will be recognized,"

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Dillinger went on. "Its laws will be respected by the Galactic Federation and enforceable in Federation courts where Federation citizens are involved. We shall furnish your government with a communications center, so that contact with the Federation can be maintained, and ships wishing to land may obtain official permission.

"In return, we shall expect immediate release of personnel, return of equipment, and departure clearance for Federation ships."

"That is satisfactory," Fornri said. "Providing, of course, that the terms of the agreement are in writing."

"It will be taken care of immediately," Dillinger said. He hesitated, feeling a bit uneasy. "You understand—this means that you must return all weapons which you have confiscated, both from the *Rirga* and the survey ships."

"I understand," Fornri said. He smiled. "We are a peaceful people. We do not need weapons."

Dillinger took a deep breath. For some reason he had expected the negotiations to collapse at that point. "Lieutenant Protz," he said, "will you see that the terms are drawn up for signature?"

Protz nodded, and got to his feet.

"One moment," Dillinger said. "There is one thing more. We must have an official name for your planet. What do you call it?"

Fornri seemed puzzled. "Sir?"

"Up to now, you have only been co-ordinates and a number to us. You must have a name. It is probably best that you name your own planet. If you don't, someone else will, and you might not like it. It can be your native name for the planet, or a descriptive term—anything you like."

Fornri hesitated. "Perhaps we should discuss the matter."

"By all means," Dillinger said. "But one word of caution. Once the planet has been named, it will be infernally difficult to change it."

"I understand," Fornri said.

The native withdrew, and Dillinger settled back with a smile, and sipped from a tumbler of the native drink. The drink was everything the survey man had claimed.

Perhaps Paradise would be a good name for the place, he thought. *But then—better to let the natives decide. Paradise might mean something very different to them. All sorts of complications resulted when planets were named by outsiders.* He remembered the famous story of the survey ship calling for help from a swamp on a strange planet. "Where are you?" Base had demanded. The survey ship gave its co-ordinates, and added, quite needlessly, "It's a helluvaplace." The people of that planet had been trying for two centuries to have its name changed, but on all the official charts it was still Hellvaplace.

"Your sun, too," he called after Fornri. "We'll have to name that."

Three hours later they were in space, on their way to Fron, the sector capital. Protz looked back at the dwindling planet, and shook his head. "*Langri.* What do you suppose it means?"

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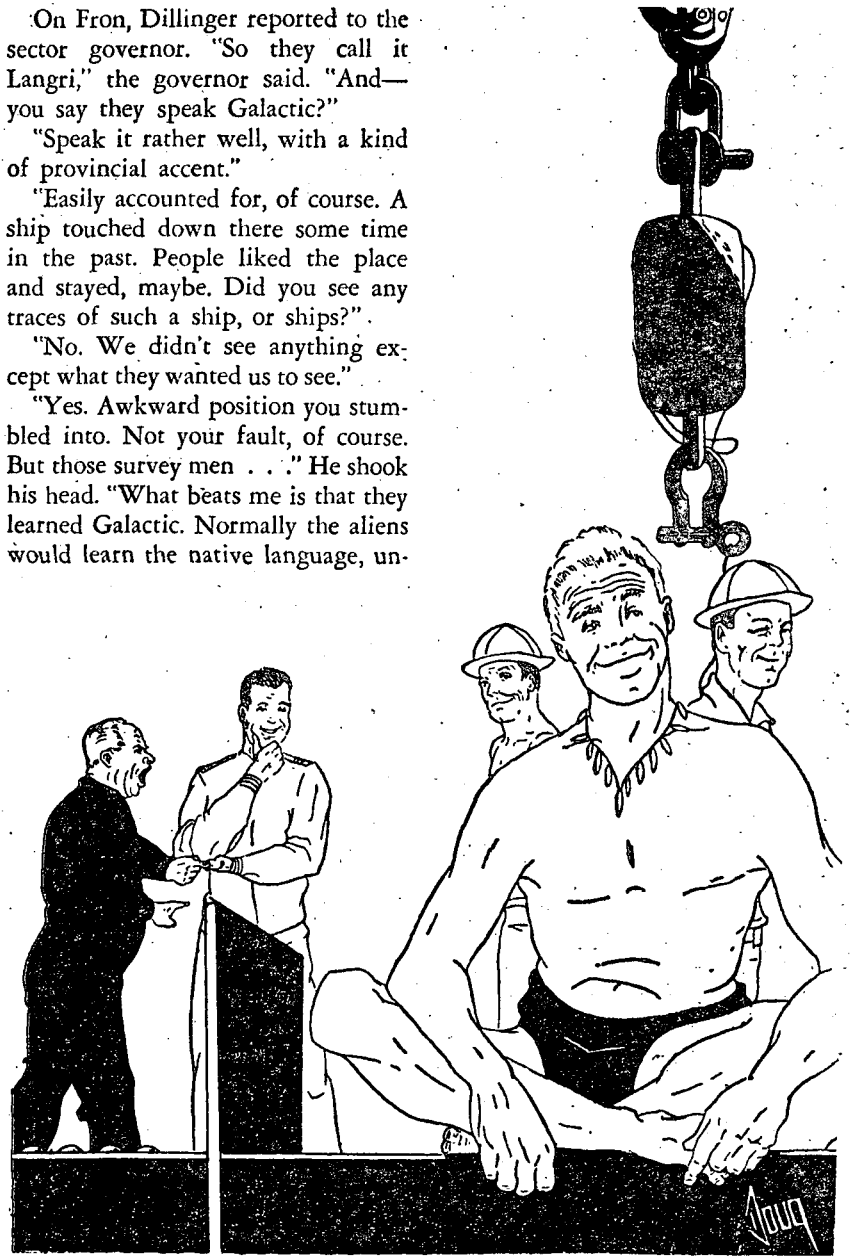
On Fron, Dillinger reported to the sector governor. "So they call it Langri," the governor said. "And—you say they speak Galactic?"

"Speak it rather well, with a kind of provincial accent."

"Easily accounted for, of course. A ship touched down there some time in the past. People liked the place and stayed, maybe. Did you see any traces of such a ship, or ships?"

"No. We didn't see anything except what they wanted us to see."

"Yes. Awkward position you stumbled into. Not your fault, of course. But those survey men . . ." He shook his head. "What beats me is that they learned Galactic. Normally the aliens would learn the native language, un-



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less there was a crowd of them. There is a native language, isn't there?"

"I can't say. I never heard any of them speak anything but Galactic. Of course I didn't hear them talking among themselves. They withdrew well out of hearing whenever they had to confer about something. But now that I think about it, I did overhear some kids speaking Galactic."

"Interesting," the governor said. "Langri—that must be a native word. I'd better attach a philologist to the staff we'll place there. I'd like to know how they happened to learn Galactic and keep on speaking it, and I'd like to know how long it's been since there were aliens in their midst. Very interesting."

"They're an intelligent people," Dillinger said. "They drove a good bargain, but they were very civilized about it. My orders say I'm to pick up an ambassador for Langri, and the personnel to form a permanent station there. Know anything about that?"

"I'll furnish the personnel for the station. The ambassador has been appointed, and he should be along in a few days. In the meantime, give your men some leave and enjoy yourselves."

A week later H. Harlow Wembling, Ambassador to Langri, waddled up the ramp to the *Rirga,* carrying his ample paunch like a ceremonial badge of honor. He bullied the duty officer, snarled at the crew, and, when Dillinger called at his quarters to pay his respects, demanded a member of the space navy to serve as his valet for the duration of his time on board.

Dillinger emerged wiping his brow, and gave Protz his precise opinion of the new ambassador in words that made the executive officer wince and rub his ears thoughtfully.

"Are you going to give him what he wants?" Protz asked.

"I told him," Dillinger said, still savoring his remarks, "I told him that the only person on board likely to have that much free time would be myself, and I lack the proper qualifications. It's too bad. It's really a shame."

"Oh, we'll be rid of him in no time."

"I was thinking of the natives on Langri. It's politics, of course. Wembling will be a party stalwart, getting paid off for years of loyal service and campaign donations. It happens all the time, and most of the appointees are decent enough. Some of them are even competent, but there's always the exceptional case where a man thinks the word *Ambassador* in front of his name elevates him forty degrees towards divinity. So why does our planet have to draw this one?"

"It's probably nothing to worry about. These political appointees never keep their jobs long. Anyway, it's no concern of ours."

"It's my concern," Dillinger said. "I negotiated the Langri treaty and I feel some responsibility for the place."

They delivered Ambassador Wembling to Langri, along with the personnel to set up a permanent Federa-

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tion station. There was one last-minute altercation with Wembling when he suddenly insisted that half of the *Rirga's* crew be left to guard the station. Then they were back in space, ready, as Dillinger said, to forget Langri and get back to work.

But he did not forget Langri, and there were many times in the months and years that followed that he found himself reminiscing dreamily of perfect beaches and water swarming with fish and sea air blended with the perfume of myriades of flowers. *Now there would be the place for a vacation,* he would think. *Or for retirement—what a place that would be for a retired naval officer!"*

III

An obsolete freighter, bound from Quiron to Yorlan on a little-used space route, disappeared. Light-years away a bureaucrat with a vivid imagination immediately thought of piracy. Orders went out, and Lieutenant Commander James Vorish, of the battle cruiser *Hiln,* changed course and resigned himself to a monotonous six months of patrolling.

A week later his orders were canceled. He changed course again, and mulled over the development with Lieutenant Robert Smith.

"Someone's been stirring up an indigenous population," Vorish said. "We're to take over, and protect Federation citizens and property."

"Some people never learn," Smith said. "But—*Langri?* Where the devil is Langri? I've never heard of it."

Vorish thought it was the most beautiful place he had ever seen. To the west, that is. Trees stretched glistening pale-green foliage over the narrow beach. Flowers were closing delicately beautiful petals as the evening sun abandoned them. Waves rippled in lazily from an awesomely blue sea.

Behind him, the hideous skeleton of an enormous building under construction stood out sharply in the dusk. The afternoon shift was busily and loudly at work. Clanging sounds and thuds echoed along the shore. Motors chugged and gurgled. Mercifully, the uncertain light disguised the havoc the construction work had wrought in the unspoiled forest.

The man Wembling was still talking. "It is your duty to protect the lives and property of citizens of the Federation."

"Certainly," Vorish said. "Within reason. The installation you want would take a division of troops and a million credits worth of equipment. And even then it wouldn't be foolproof. You say part of the time the natives come in from the sea. We'd have to ring the entire peninsula."

"They're unprincipled scoundrels," Wembling said. "We have a right to demand protection. I can't keep men on the job if they're in terror of their lives."

"How many men have you lost?"

"Why, none. But that isn't the natives' fault."

"You haven't lost anybody? What about property? Have they been dam-

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aging your equipment or supplies?"

"No," Wembling said. "But only because we've been alert. I've had to turn half my crew into a police force."

"We'll see what we can do," Vorish said. "Give me some time to get the feel of the situation, and then I'll talk with you again."

Wembling summoned two burly bodyguards, and hurried away. Vorish strode on along the beach, returned a sentry's salute, and stood looking out to sea.

"There's nobody out in front of us, sir," the sentry said. "The natives —"

He halted abruptly, challenged, and then saluted. Smith came down the slope, nodded at Vorish, and faced west.

"What'd you get?" Vorish asked.

"There's something mighty queer about this situation. These 'raids' Wembling talked about—the natives usually come one at a time, and they don't come armed. They simply sneak in here and get in the way—lie down in front of a machine, or something like that—and the work has to stop until someone carries them away and dumps them back in the forest."

"Have any natives been hurt?"

"No. The men say Wembling is pretty strict about that. It's gotten on the men's nerves because they never know when a native is going to pop up in front of them. They're afraid if one did get hurt the others would come with knives or poison arrows, or some such thing."

"From what I've seen of Wembling, my sympathy is with the natives. But I have my orders. We'll put a line of sentry posts across the peninsula, and distribute some more about the work area. It's the best we can do, and even that will be a strain on our personnel. Some of the specialized ratings are going to howl when we assign them to guard duty."

"No," Smith said. "No, they won't. A couple of hours on this beach are worth eight hours of guard duty. I'll start spotting the sentry posts."

Vorish went back to the *Hiln,* and became the target of an avalanche of messengers. Mr. Wembling would like to know . . . Mr. Wembling suggests . . . If it would not be too much trouble . . . Compliments of Mr. Wembling . . . Mr. Wembling says . . . At your earliest convenience . . . Mr. Wembling's apologies, but . . .

Damn Mr. Wembling! Vorish had been on the point of telling his communications officer to put in a special line to Wembling's office. He breathed a sigh of relief over his narrow escape, and gave a junior officer the full-time assignment of dealing with Wembling's messengers.

Smith strode in out of the darkness from his job of posting the sentries. "Native wants to see you," he said. "I have him outside."

Vorish threw up his hands. "Well, I heard Wembling's side of it. I might as well hear theirs. I hate to ask, but I suppose Wembling will let us have an interpreter."

"He might if he had any, but he hasn't. These natives speak Galactic."

"Now look here." He paused,

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shook his head. "No, I see you aren't joking. I guess this planet is just different. Bring him in."

The native introduced himself as Fornri, and confidently clasped Vorish's hand. His hair blazed vividly red in the cold glow of the overhead light. He accepted a chair, and sat down calmly. "I understand," he said, "that you are members of the Space Navy of the Galactic Federation of Independent Worlds. Is that correct?"

Vorish stopped staring long enough to acknowledge that it was correct.

"In behalf of my government," Fornri said, "I ask your assistance in repelling invaders of our world."

"The devil!" Smith muttered.

Vorish studied the native's earnest young face before venturing a reply. "These invaders," he said finally. "Are you referring to the construction project?"

"I am," Fornri said.

"Your planet has been classified 3C by the Federation, which places it under the jurisdiction of the Colonial Bureau. Wembling & Company have a charter from the Bureau for their project here. They are hardly to be considered invaders."

Fornri spoke slowly and distinctly. "My government has a treaty with the Galactic Federation of Independent Worlds. The treaty guarantees the independence of Langri, and also guarantees the assistance of the Federation in the event that Langri is invaded from outer space. I am calling upon the Galactic Federation of Independent Worlds to fulfill its guarantee."

"Let's have the Index," Vorish said to Smith. He took the heavy volume, checked the contents, and found a page headed *Langri.* "Initial survey contact in '84," he said. "Four years ago. Classified 3C in September of '85. No mention of any kind of treaty."

Fornri took a polished tube of wood from his belt, and slipped out a rolled paper. He passed it to Vorish, who unrolled it and smoothed it flat. It was a carefully written copy of an obviously official document. Vorish looked at the date, and turned to the Index. "Dated in June of '84," he said to Smith. "A month and a half after the initial survey contact. It classifies Langri as 5X."

"Genuine?" Smith asked.

"It looks genuine. I don't suppose these people could have made it up. Do you have the original of this document?"

"Yes," Fornri said.

"Of course he wouldn't carry it around with him. Probably doesn't trust us, and I can't blame him."

He passed the paper over to Smith, who scrutinized it carefully and returned it. "It would be a little odd for classification of a new planet to be delayed for a year and a half after the initial survey contact. If this thing is genuine, then Langri was reclassified in '85."

"The Index doesn't say anything about reclassification," Vorish said. He turned to Fornri. "Until we were

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ordered to this planet, we had never heard of Langri, so of course we know nothing about its classification. Tell us how it happened."

Fornri nodded. He spoke Galactic well, with an accent that Vorish could not quite place. Occasionally he had to pause and grope for a word, but his narrative was clear and concise. He described the coming of survey men, their capture, and the negotiations with the officers of the *Rirga*. What followed brought scowls to their faces.

"Wembling? Wembling was the first ambassador?"

"Yes, sir," Fornri said. "He mocked the authority of our government insulted our people, and bothered our women. We asked your government to take him away, and it did."

"Probably he has plenty of political pull," Smith said. "He got the planet reclassified, and got himself a charter. Pretty effective revenge for a supposed insult."

"Or maybe he just saw an opportunity to make money here," Vorish said. "Was your government given formal notification of the termination of the treaty and Langri's reclassification?"

"No," Fornri said. "After Wembling there came another ambassador, a Mr. Gorman. He was a good friend of my people. Then a ship came and took him and all of the others away. We were told nothing. Next came Mr. Wembling with many ships and many men. We told him to leave, and he laughed at us and began to build the hotel."

"He's been building for nearly three years," Vorish said. "He isn't getting along very fast."

"We have hired an attorney many worlds away," Fornri said. "Many times he has obtained the conjunction, and made the work stop. But then each time the judge has stopped the conjunction."

"Injunction?" Smith exclaimed. "You mean you've made a lawsuit out of this?"

"Bring Lieutenant Charles in here," Vorish said. Smith routed the *Hiln's* young legal officer out of bed. With the help of Charles they quizzed Fornri at length on the futile legal action taken by the government of Langri against H. Harlow Wembling.

The story was both amazing and pathetic. The Federation station had taken its communication equipment when it was withdrawn. The natives were helpless when Wembling arrived, and they knew better than to attempt a show of force. Fortunately they had found a friend on Wembling's staff—Fornri wouldn't say whom—and he had managed to put them in touch with an attorney and the attorney had gone to court for them enthusiastically, many times.

He could not intervene in the matter of the violated treaty, because the government had sole jurisdiction there. But he had attacked Wembling's activities on a number of counts, some of which Fornri did not understand. In one instance Wembling had been accused of violating his charter, which gave him

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exclusive rights to develop Langri's natural resources. Wembling's work on his hotel was halted for months, until a judge ruled that a planet's vacation and resort potential was a natural resource. The natives had just won the most recent round, when a court held Wembling liable for damages because he'd torn down an entire village in clearing ground for the hotel. His charter, the court said, did not permit him to usurp private property. But the damages had been mild, and now Wembling was back at work, and the attorney was trying to think of something else. He was also lobbying to get something done about the broken treaty, but there had been no promise of success there.

"Lawsuits cost money," Vorish observed.

Fornri shrugged. Langri had money. It had four hundred thousand credits which the Federation had paid to it, and it had the proceeds of a good weight of platinum ore which the friend on Wembling's staff had managed to smuggle out for them.

"There's platinum on Langri?" Vorish asked.

"It didn't come from Langri," Fornri said.

Vorish drummed impatiently on his desk. The Langri situation involved several noteworthy mysteries, but just for a start he'd like to know how the natives had happened to be speaking Galactic when the first survey men arrived. And then—platinum ore that didn't come from Langri. He shook his head. "I don't think you'll ever defeat Wembling in court. You may give him a few temporary setbacks, but in the long run he'll win out. And he'll ruin you. Men like him have too much influence, and all the financial backing they need."

"The conjunctions give us time," Fornri said. "Time is what we need—time for the Plan."

Vorish looked doubtfully at Smith. "What do you think?"

"I think we're obligated to make a full report on this. The treaty was negotiated by naval officers. Naval Headquarters should be filled in on what's happened."

"Yes. We should send them a copy of this—but a copy of a copy may not swing much weight. And the natives probably won't want to turn loose the original." He turned to Fornri. "I'm going to send Lieutenant Smith with you. He will bring a couple of men along. None of them will be armed. Take them wherever you like, and guard them any way you like, but they must make their own photographs of the treaty before we can help you."

Fornri considered the matter briefly, and agreed. Vorish sent Smith off with two technicians and their equipment, and settled down to compose a report. He was interrupted by a young ensign who gulped, flushed crimson, and stammered, "Excuse me, sir. But Mr. Wembling—"

"What now?" Vorish said resignedly.

"Mr. Wembling wants sentry post number thirty-two moved. The lights are interfering with his sleep."

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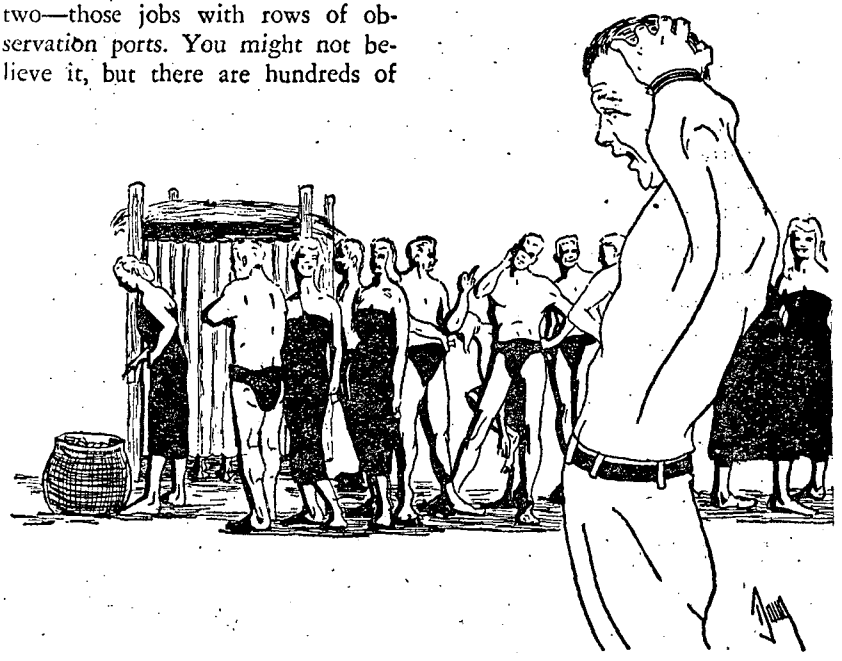
In the morning Vorish strolled around the project to take a good look at Wembling's embryo hotel. Wembling joined him, wearing a revoltingly-patterned short-sleeved shirt and shorts. His arms and legs were crisply tanned, his face pale under an outlandish sun helmet.

"A thousand accommodations," Wembling said. "Most of them will be suites. There'll be a big pool on the terrace overlooking the beach. Some people can't stand salt water, you know. I have the men laying out a golf course. There'll be two main dining rooms and half a dozen small ones that will specialize in food from famous places. I'll have a whole fleet of boats to take people fishing. I might even have a submarine or two—those jobs with rows of observation ports. You might not believe it, but there are hundreds of worlds where people have never seen an ocean. Why, there are worlds where people don't even have water to bathe in. They have to use chemicals. If some of those people can come to Langri, and live a little, now and then, a lot of head doctors are going to be out of work. This project of mine is nothing but a service to humanity."

"Is that so?" Vorish murmured. "I wasn't aware that yours was a non-profit organization."

"Huh? Of course I'll make a profit. A darned good profit. What's wrong with that?"

"From what I've seen of your ho-



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tel, the only minds you'll be saving will be those of the poor, broken-down millionaires."

Wembling indulged in a grandiose gesture. "Just a beginning. Have to put the thing on a sound financial basis right from the start, you know. But there'll be plenty of room for the little fellows. Not in water-front hotels, but there'll be community beaches, and hotels with rights of access, and all that sort of thing. My staff has it all worked out."

"It's just that I'm trained to look at things differently," Vorish said. "We in the Space Navy devote our lives to the protection of humanity, but if you'll look at the current pay scale you'll see that there's no profit motive."

"There's nothing wrong with taking a profit. Where would the human race be today if nobody wanted a profit? We'd be living in grass huts back on old Terra, just like these Langri natives. There's a good example of a nonprofit society. I suppose you'd like that."

"It doesn't look so bad to me," Vorish murmured.

But Wembling did not hear him. He whirled and darted away, sputtering an unbelievably pungent profanity. A native, dashing in from nowhere, had attached himself to a girder that was about to be swung aloft. Workmen were valiantly striving to remove him—gently. The native clung stubbornly. Work stopped until he was pried loose and carried away.

Lieutenant Smith came up in time to see the drama carried to its comical conclusion.

"What do they expect to gain?" Vorish said.

"Time," Smith said. "Didn't you hear what that native said? They need time for the Plan—whatever that means."

"Maybe they're planning some kind of a massive uprising."

"I doubt it. They seem to be essentially a peaceful people."

"I wish them luck," Vorish said. "This Wembling is a tough customer. He's a self-activated power unit. I wonder how his weight holds up, the way he tears around keeping things humming."

"Maybe he eats all night. Want to look over the sentry layout?"

They turned away. In the distance they heard Wembling, his voice high-pitched with excitement, getting the work going again. A moment later he caught up with them and walked jauntily along beside Vorish.

"If you'd put in the kind of defense line I want," he said, "I wouldn't have that trouble."

Vorish did not reply. It was obvious that Wembling was going out of his way to avoid injuring the natives, but Vorish doubted that his motives were humanitarian. Inept handling of the native problem might embarrass him in some future court test.

On the other hand, Wembling was not worried in the least about the Space Navy's injuring the natives. The blame for that action could not possibly fall upon him. He had demanded that Vorish erect an elec-

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tronic barrier that would incinerate any native attempting to pass.

"At the very worst," Vorish said, "the natives are only a minor nuisance."

"They haven't got much for weapons," Wembling said. "But they have enough to cut throats, and there's a hell of a lot of natives in this place if they all decide to come at me at once. And then, their mucking about the project is slowing things down. I want 'em kept out."

"I don't think your throat is in danger, but we'll do what we can to keep them out."

"Guess I can't ask more than that," Wembling said. He chuckled good-naturedly, and looped his arm through Vorish's.

Smith had sited his sentry posts to make a shrewd use of the infrequent irregularities in terrain. He had men at work now, clearing the ground for better visibility. Wembling sauntered along reviewing the results with the casual aloofness of an Admiral of the Fleet. Suddenly he pulled Vorish to a halt.

"This defense line of ours. We'll have to move it."

Vorish regarded him coldly. "Why?"

"In the next two or three weeks we're going to start work on the golf course. We wouldn't be able to get more than half of it this side of the line. Maybe not that much. So we'll have to move it. It wouldn't be safe to have my men working off by themselves. But there's no hurry—tomorrow will do."

"Supposing you tell me what you have in mind," Vorish said.

Wembling summoned a survey party, and they set out under the watchful eyes of a military escort. They moved west along the peninsula, which widened sharply until it became a part of the mainland. They pushed their way through the trees as the perspiring Wembling, enjoying himself immensely, gestured and talked his way around the prospective golf course.

An hour later Vorish took another look at the acreage the golf course was to occupy, and gave Wembling a flat refusal. "The line would be too long here," he said. "I wouldn't have enough men."

Wembling grinned. "The commander is always pulling my leg. You've got plenty of men. They're all down there on the beach."

"My men are working in shifts, just as yours are. If I put those men on guard duty, I won't have any relief for them."

"We both know you could set up an impassable defense that wouldn't require any men," Wembling said.

"We both know I'm not going to do it. Your men can work without naval protection. They'll be safe."

"All right. If that's the way you want it. But if anything happens to them—"

"There's one more thing," Vorish said. "What are you going to do about that abandoned native village where the eighth hole is supposed to be?"

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Wembling gazed contemptuously at the distant huts. "Tear it down. Nobody lives there."

"You can't do that," Vorish said. "It's native property. You'll have to get permission."

"Whose permission?"

"The natives' permission."

Wembling threw back his head, and laughed uproariously. "Let 'em take it to court, if they want to waste their money. That last case must have cost 'em close to a hundred thousand, and know what their damages were? Seven hundred and fifty credits. The sooner they use up their money, the sooner they stop bothering me."

"My orders call for the protection of natives and native property just as I protect you and your property," Vorish said. "The natives won't stop you, but I will."

He strode away without looking back. He was in a hurry to get to his office on the *Hiln,* and have a talk with Lieutenant Charles. There was something he remembered reading, a long time ago, in his little-used manual of military government . . .

The days drifted by pleasantly, ruffled only by Wembling's violent protests whenever a native slipped through to slow down construction. Vorish kept an alert eye on Wembling's Operation Golf Course, and waited impatiently for some official reaction to his report on the Langri treaty.

Official reaction there was none, but Wembling's work-crew steadily sliced its way back into the forest. Trees were being hauled away to be cut into lumber. The delicately-speckled grain would make an exquisite and novel paneling for the hotel's interior.

The crew reached the deserted native village and worked completely around it. They made no effort to trespass, though Vorish saw them casting nervous glances in that direction from time to time, as though they hoped it would go away.

Making his morning rounds of the sentry posts, Vorish paused occasionally to turn his binoculars on the work around the village.

"You're sticking your neck out," Smith said. "I hope you realize that."

Vorish made no reply. He had his own opinion of naval officers who were unduly concerned for their necks. "There's Wembling," he said.

With his bodyguards panting on his heels, Wembling was moving at his usual fast pace across the cleared ground. His foreman came forward to meet him. Wembling spoke briefly, and pointed. The foreman turned to his men, and pointed. A moment later the first hut was overturned.

"Let's go," said Vorish.

Smith signaled a squad of navy men into action, and hurried after him. The men reached the village first, and cleared out Wembling's men. Wembling was frozen in impotent rage when Vorish arrived.

Vorish paused to study the row of toppled huts. "Did you have permission from the natives to do this?" he asked.

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"Hell, no," Wembling said. "I've got a charter. What can they do about it?"

"Place these men under arrest," Vorish said, and turned away.

Somewhat to his surprise, Wembling said nothing. His aspect was that of a man thinking deeply.

Vorish confined Wembling to his tent, under arrest. He halted all work on the hotel. Then he forwarded a complete report on the incident to Naval Headquarters, and sat back to await results.

The indifference of headquarters to his Langri report had intrigued him. Had someone filed it away as unimportant, or was there a corrupt conspiracy high up in the government? Either way, injustice was being done. The natives wanted time for something they called the Plan. Vorish wanted time to call someone's attention to what was going on. It would be a shame to allow Wembling to finish his hotel while the report on the Langri situation lay in an underling's desk drawer.

With Wembling under arrest and the work stopped, Vorish watched in amusement while Wembling got off frantic messages to exhalted persons high up in the Federation government.

"Now," Vorish told himself with satisfaction, "let's see them ignore Langri this time."

The days had added up to three weeks when Headquarters suddenly broke the silence. The battle cruiser *Bolar* was being dispatched, under Admiral Corning. The admiral would make an on-the-spot investigation.

"It doesn't sound as if you're being relieved," Smith said. "Do you know Corning?"

"I've served under him several times, at various places and ranks. You might call him an old friend."

"That's fortunate for you."

"It could be worse," Vorish admitted. He felt that he'd covered himself well, and Corning, even though he was crusty, temperamental and a stickler for accuracy, would not go out of his way to make trouble for a friend.

Vorish turned out an honor guard for the admiral, and received him with full ceremony. Corning stepped briskly down the ramp from the *Bolar* and glanced about approvingly.

"Glad to see you, Jim," he said, his eyes on one of Langri's inviting beaches. "Nice place here. Nice place. He turned to Vorish, and studied his tanned face. "And you've been making good use of it. You've put on weight."

"You've lost weight," Vorish said.

"Always was skinny," Corning said. "I make up for it in height. Did I ever tell you about the time—" He glanced at the circle of respectfully attentive officers, and dropped his voice. "Let's go where we can talk."

Vorish dismissed his men, and took Corning to his office in the *Hiln*. The admiral said nothing along the way, but his sharp eyes surveyed Vorish's defense arrangements, and he clucked his tongue softly.

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"Jim," Corning said, as Vorish closed the door, "just what is going on here?"

"I want to give you some background," Vorish said, and told him about the treaty and its violation. Corning listened intently, muttering an occasional "Damn!"

"You mean they took no official action on it at all?" he demanded.

"That's exactly what they did."

"Damn! Sooner or later somebody's head will roll over that. But it'll probably be the wrong head, and that treaty really has nothing to do with this mess you've gotten yourself into. Not officially, anyway, because officially the treaty doesn't exist. Now what's this nonsense about a few native huts?"

Vorish smiled. He felt that he was on firm ground there—he'd had a long conference with Fornri, exploring all of the angles. "According to my orders," he said, "I'm an impartial referee here. I'm to protect Federation citizens and property, but I am also to protect the natives against any infringements upon their customs, means of livelihood, and so on. Paragraph seven."

"I've read it."

"The idea is that if the natives are treated properly, Federation citizens and property are a lot less likely to need protection. That particular native village is more than just a collection of empty huts. It seems to have some religious significance to the natives. They call it the Teacher's Village, or some such thing."

"Teacher or leader," Corning said. "Sometimes they're the same thing to primitive peoples. That might make the village a kind of shrine. I take it that this Wembling busted right in and started tearing the place apart."

"That's what he did."

"And you warned him ahead of time that he should get the natives' permission, and he laughed it off. All right. Your conduct was not only proper, there—it was commendable. But why did you have to close the whole works down? You could have protected that village, and made him put his golf course somewhere else, and he would have screamed to high heaven without getting anything but laughed at. But you had to stop everything. Were you *trying* to get fired? You've cost Wembling a lot of time and a lot of money, and now he has a real grievance. And he's got plenty of influence."

"It isn't my fault if he wasted time and money," Vorish said. "I advised headquarters of my action immediately. They could have reversed that order any time they chose."

"That's just it. They didn't dare, because there was always the chance that things might blow up. They didn't know the situation here. You caused a pretty stew at headquarters. Why did you arrest Wembling, and keep him in his tent under guard?"

"For his own protection. He'd defiled a sacred place, and I'd be responsible if anything happened to him."

For the first time Corning smiled.

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"So that's the line. Not bad. It all comes down to a matter of judgment, and that makes it your opinion against Wembling's. You flip your coin and you take your choice, and no one who wasn't on the spot is entitled to vote." He nodded. "I'll follow that up in my report. Wembling stepped out of line. Definitely. The consequences might have been serious. I can't rightly say that your action was too drastic, because I wasn't here at the time. I don't exactly see what you were trying to do, or maybe I do, but I'll back you up as much as I can. I guess I can keep you from being shot."

"Oh," Vorish said. "So they were going to shoot me. I wondered."

"They were . . . they are . . . going to do their worst." Corning looked steadily at Vorish. "I don't much like it, but I have my orders. You'll return to Galaxia on the *Hiln,* under arrest—to stand court-martial. Personally I don't think you have much to worry about. I can't see them going ahead with it, but right now they think they want to try."

"I won't worry," Vorish said. "I've studied this thing through pretty carefully. I rather hope they try, though. I'll insist on a public court-martial, of course, and . . . but I'm afraid they won't do it. Anyway, I'm glad I'll be leaving Langri in capable hands."

"Not my hands," Corning said. "Not for long. The 984th Squadron is on its way now, to take over. Eleven ships. They're not taking any chance on this thing getting out of hand. The commander is Ernst Dillinger—just made admiral a few months ago. Know him?"

IV

The fishing boat was still in position, far out. Dillinger raised his binoculars, lowered them. As far as he could see, the natives were—fishing. He returned to his desk and sat gazing seaward at the fleck of color that was the sail.

The plush spaciousness of his office annoyed him. It was only his second day in the quarters Wembling had persuaded him to occupy in the completed wing of Hotel Langri, and he was spending most of his time pacing in out-sized circles about the work that piled up on his desk.

He was worried about the natives. He was worried about an enigmatic something or other which they called the Plan, and which they intimated would eventually sweep Wembling and his workers and his hotels right off the planet.

With Hotel Langri opening for business in a few months, and work already beginning on two other hotels, Dillinger knew that the legal expulsion of Wembling had become a flat impossibility. So what were the natives planning? Illegal expulsion? The use of force? With a squadron of the Space Navy standing by?

He got to his feet again and walked over to the curved expanse of tinted plastic that formed the window. The fishing boat was still there.

Continued on page 148

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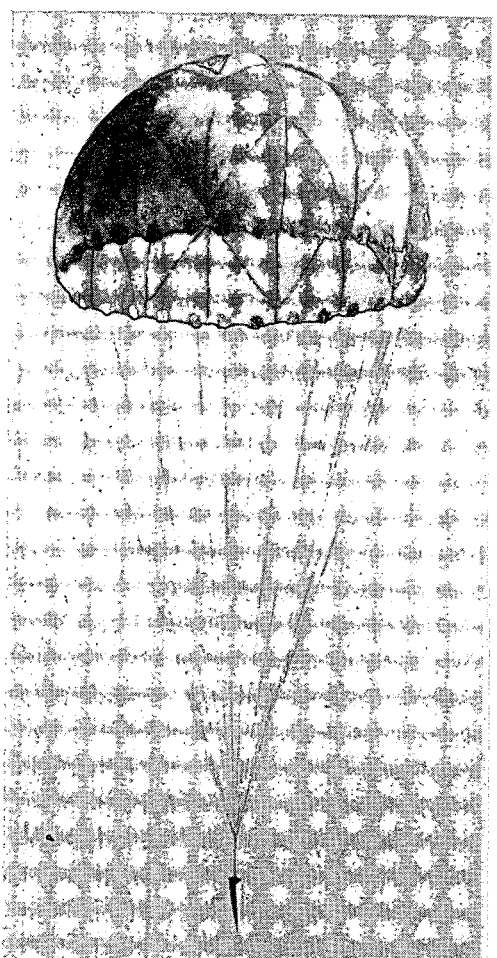
THE COMPLEX PROBLEM OF THE SIMPLE WEATHER ROCKET

By GEORGE WILLARD

Somebody must have said it before: The easier a thing looks to be . . . the nastier the problem!



The ARCAS recovery parachute lowers only the nose cone and instrument package of the ARCAS, leaving the missile body to tumble back to earth. Hanging from the parachute, the radiosonde equipment senses and transmits during descent.

Courtesy: Atlantic Research Corporation

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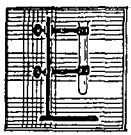

VER since Dr. Edmund Halley proposed the concept of a layered atmosphere in 1730, men have been punching holes in the troposphere in an attempt to find out what is going on up there. On March 21, 1893, the first recording balloon sonde was launched by Gustave Hermite and Georges Besandon near Paris and attained an altitude of 49,215 feet. But the recording equipment for meteorological radiosonde balloons was heavy, expensive, and very unreliable until an FM-AM time-multiplex radiosonde system was developed by Diamond, Hinman, and Dunsmore at the National Bureau of Standards in 1933.

Since 1933, radiosonde balloons have been rising from the surface of the earth every day, measuring the temperature, pressure, and humidity of the atmosphere as they rose. Their little radio transmitters, working as beacons, allowed the balloons to be radio-tracked from the ground, and the drift of the balloon, as it wandered upward, was a measure of upper air winds.

Lest anyone think that radiosonde balloon work is an intermittent thing, it's well to point out that there are roughly some five hundred radiosonde ground-receiving stations in the United States alone—and each station launches two radiosondes per day. This Department of Commerce Weather Bureau work accounts for one thousand beeping little radiosondes wafting skyward every day. The radiosonde people write-off the radiosonde and balloon once it is launched. If some farmer happens to pick up an expended radiosonde in his field and ships it back, the radiosonde people probably won't fly it again. They keep it around the ground station for extreme emergency and for demonstration purposes.

The armed services have meteorological networks that fly radiosondes . . . and this accounts for perhaps about one thousand radiosondes per day going aloft from Air Force bases, Army installations, and Navy ships at sea. Of course, the United States is not the only country in the world with a weather bureau; by conservative estimate, other nations fly about three thousand radiosondes every day, total.

This gives us about five thousand radiosonde balloons drifting skyward and making radio noises about the weather *every day all over the world!* A radiosonde balloon, complete and ready to launch, costs the Weather Bureau about sixty-two dollars. It is not a bad business to supply the world with radiosonde balloons to the tune of about $310,000 per day or $113 million dollars per year . . . exclusive of the cost of the ground equipment required.

The radiosonde balloon is a fairly reliable weather observation system, and it is cheaper than using an airplane to fly up there to get the data. Flying an airplane isn't cheap. And there are few airplanes that go to 100,000 feet. You can't "hardly" find them, as a matter of fact.

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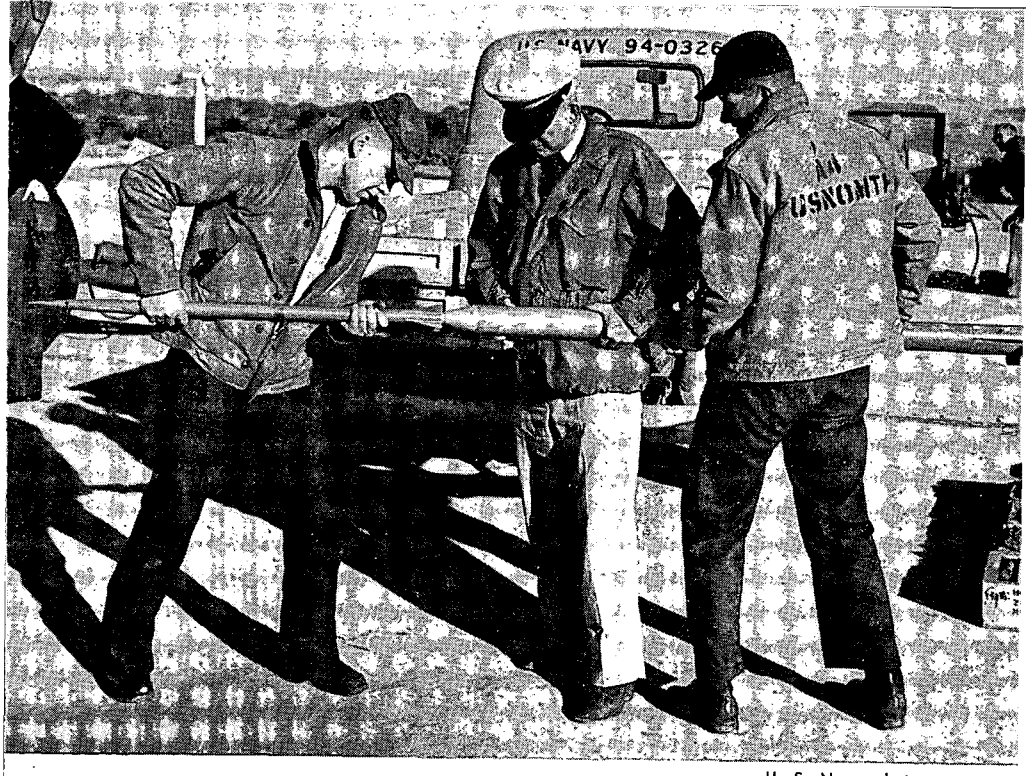

U. S. Navy photo

A Navy crew prepares a "Hasp" rocketsonde for flight. The technician on the left is assembling the instrumentation dart to the solid propellant rocket engine held by the other two men.

But the radiosonde balloon system has problems. It is a system nearly thirty years old, although it has been brought up to date occasionally with new radio tubes and new components.

Most radiosonde balloons are lofted by a five-foot-diameter helium-filled balloon made of latex or polyethylene film. The radiosonde package itself is the simplest-looking piece of electronic gear you would ever hope to see—one glass pentode tube, one triode r-f tube, some resistors and condensers, an aneroid-driven commutating switch, a thermistor bead, and chemical humidity plate that changes resistance with humidity. The water-immersion battery tags along in the same box, and the box itself is made of corrugated cardboard. Sometimes, the manufacturers get fancy and make the box from white polystyrene. This is slung under a paper parachute, which is, in turn, slung under the balloon. To launch this airborne hold-over from the Nineteenth Century, merely take

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it outside through a great big door and turn it loose.

In the United States, the FCC has assigned two frequencies for radio sondes: 400-406 mc. and 1660-1700 mc. This makes radiosondes fairly easy to track. In fact, it's possible to use a modified S-band radar set to track the 1680 mc. radiosondes—which is just what is done, in effect. Since the rate-of-rise of the balloon is known, just track it up and get winds aloft data while the radiosonde transmitter beeps and boops according to temperature and humidity.

With any luck at all, the balloon reaches 100,000 feet in about two hours. Some don't make it. When the balloon bursts, the paper parachute gently lowers the radiosonde package into some cornfield.

The whole radiosonde balloon system was fine for the leisurely period in which it was developed. But today, in the two-hour period it takes a radiosonde to complete its mission, a jet airliner has flown twelve hundred miles and a fast supersonic bomber has gone better than twice that far. It's practically impossible to launch a balloon in foul and windy weather—just when you may want your meteorological data! As the balloon rises, it drifts with the wind; so, instead of getting a reading on the weather over the ground station, the balloon may be hundreds of miles away by the time it reaches peak altitude. The data transmission system requires hand reduction of the data at the ground station and does not lend itself well to computer reduction.

As Edison once said, "There must be a better way to do this job. Find it!"

In 1920, Dr. Robert H. Goddard proposed the use of the rocket vehicle for meteorological soundings. Well, is the sounding rocket the answer? Perhaps, for it has several advantages over the balloon. It can get to peak altitude quickly, and be nearly over the ground station when it does so. It can be designed to stay in a stand-by condition for a long time and then be launched in most any type of weather up to a howling gale. It can be lowered by a parachute or other high-drag recovery device. A solid propellant rocket vehicle can be cheap, reliable, easy to handle, easy to make, and easy to store. Performance is principally dependent upon the weight and total impulse. It is safer than a balloon because it remains in navigable airspace for a much shorter time.

Rocket engineers and upper air scientists have been sending instruments into the ionosphere for nearly twenty years. The sounding rockets have gotten smaller and simpler and cheaper. Getting a payload to one hundred miles is no longer a real problem; several companies will happily sell you one of a number of rocket vehicles that will do this.

But nobody at this moment has been able to build a simple meteorological radiosonde system using a rocket vehicle that will replace the radiosonde balloon.

Primarily this is due to the fact that

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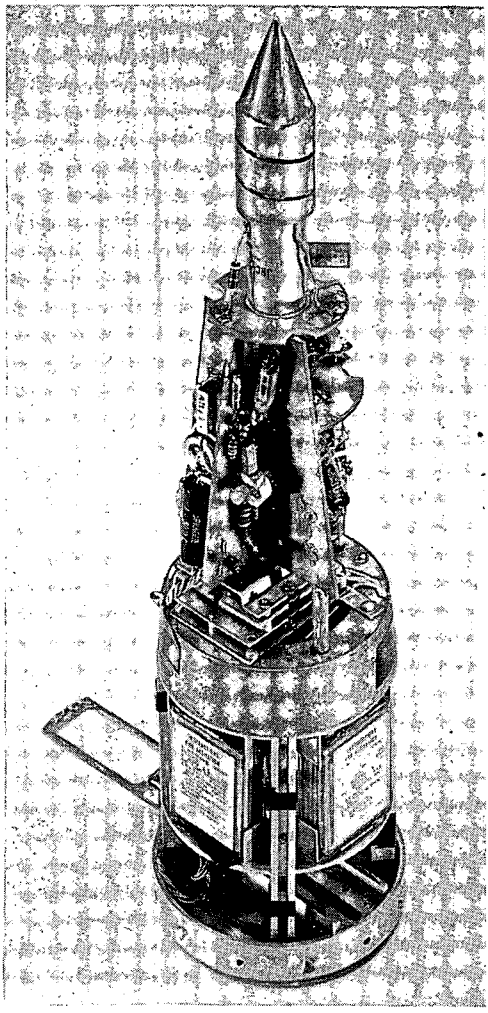
there are a number of problems inherent in such a rocket system that are *not* simple by any means!

Note that the word *system* is used. This means that the rocket engine, the vehicle, the rocketborne instrumentation, the ground instrumentation, the launching system, and the recovery system must be integrated. One cannot achieve an economically-sound meteorological rocketsonde by hitching together a group of existing sub-systems. The present radiosonde lofted by balloons is generally inadequate because of its very low response rate; a metro rocket system could be designed using the present radiosonde equipment, but it would have a number of disadvantages.

Such a setup is the ARCAS rocketsonde built by Atlantic Research Corporation of Alexandria, Virginia. This is probably the first fairly successful attempt to come up with something approaching a system. The ARCAS is small as sounding rockets go—see the Small Sounding Rocket Chart—and carries an AN/DMQ-6 radiosonde. This consists of a superregenerative receiver operating on 400-406 mc. and an FM transmitter operating on 1680 mc. using a 5794A cavity oscillator. The ARCAS uses a closed-breech launcher that allows the escaping gas of the rocket engine to push the vehicle out of the barrel of the launcher like a



The ARCAS instrumentation has been designed to fit inside the nose ogive and is a re-worked and re-packaged AN/AMT-4 radiosonde. It is expensive and cannot sense and transmit during the ascent of the rocket.

Courtesy: Atlantic Research Corporation

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bullet; the ARCAS then carries the radiosonde to about 200,000 feet. At peak altitude, it deploys a parachute that lowers the radiosonde; the main rocket body is allowed to free-fall back to the ground. The radiosonde senses temperature and pressure on descent.

The parachute-radiosonde combination is tracked with the AN/GMD-2 radiosonde ground station equipment. This equipment is essentially a two-frequency radar set. An interrogation signal is sent out on 400 mc. This is picked up by the radiosonde package which then transmits both the interrogation signal and the temperature-pressure information. Slant range is determined by the time it takes the interrogation signal to get to the radiosonde and return.

Although this might appear to be a nice, simple radiosonde rocket system, it has several drawbacks. First, there is the cost. The ARCAS rocket vehicle without instrumentation presently sells for about five hundred dollars per round. Fully instrumented, ARCAS brings fifteen hundred dollars. This is no economical replacement for the sixty-two dollars radiosonde balloon.

ARCAS does not make use of one of the prime advantages of a rocketsonde: speed. It senses during descent and takes sixty minutes to drop from 210,000 feet to 55,000 feet. It drops even slower below 55,000 feet. This is not much better than the present two-hour time required for a balloon run.

Since ARCAS does not recover the main portion of the vehicle body, this free-falls to impact and means that ARCAS can only be used on established rocket ranges or far away from populated areas. It can't be used at present radiosonde locations. People do not like the idea of a rocket body plummeting 200,000 feet out of the sky over a city.

SMALL SOUNDING ROCKETS

Name	Mfg.	Length	Dia.	Pay-load	Altitude	Acceler-ation	Cost
Hasp	Cooper-Marquardt	66″	3″	14 oz.	34.2 mi.	100g	$600
2.75FFAR	Navy	48″	2.75″	2.5 lb	181,000′ (air launch)	50g	$50 (no inst.)
Cricket	Texaco Experiment Inc.	30″	2.5″	0.5 lb	3000′	27g max.	$30 (no inst.)
Aeolus	Rocketdyne	87.25″	4.25″	12 lb.	175,000′	29.4g	?
Arcas	Atlantic Research	92.3″	4.45″	12 lb.	208,500′	30g	$500 (basic) $1500 (with instruments)

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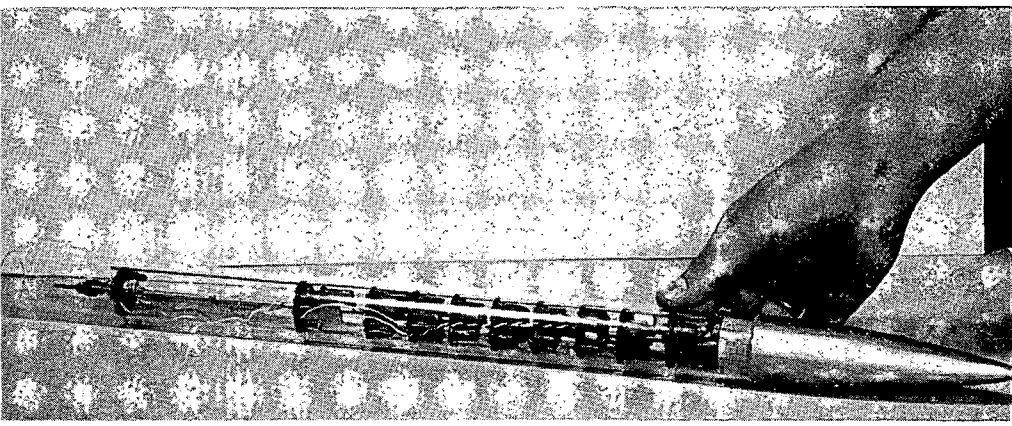

Courtesy: G. H. Stine

The 8-channel transistorized radiosonde package was developed by Grant R. Gray as part of the study of met rocketsondes carried out by Gray, Hitch, and Stine. It used commercial-grade transistors and components.

In addition, the solid rocket propellant used in the ARCAS is Arcite—and it has a security classification of CONFIDENTIAL. You cannot buy this rocket on the open market unless you have a security clearance.

We are now beginning to see a few of the factors that have a bearing on the performance, operation, and economics of a meteorological rocketsonde system. How about other available rockets?

Hasp is a cute little bird, but it costs six hundred dollars and has an acceleration of 100g's. Any kind of sensitive instrument that must withstand the crushing forces of 100g's is not cheap. And *Hasp* has no parachute system.

The *Aeolus* is a recent development. It is billed as a "cheap" meterological sounding rocket—but no price has been quoted. From appearances, it might be as cheap as five hundred dollars. But no integrated radiosonde system for use with this bird is offered. Buy it and plug in your own. It isn't a system.

At one time, a group played around with the idea of adapting the 2.75" FFAR "Mighty Mouse" aircraft rocket as a rocketsonde. The armed services have made millions of these, and they cost about fifty dollars each. They are light and small. Dr. Fred Singer of the University of Maryland adapted the FFAR to the "Rockair" system in which the FFAR carried a cosmic ray counter to 181,000 feet when launched vertically from the wing of a jet fighter at 40,000 feet. But the FFAR packs some 50g's of acceleration. Fired from the

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ground, it will just barely touch 30,000 feet. Jet fighters are very expensive launchers. The group gave up on the idea.

One little bitty rocket has showed up lately that shows some thinking in the right direction. It is the "Cricket," made by Texaco Experiment Incorporated. Many of you may remember the "Alpha I" toy rocket that used citric acid and baking soda to produce carbon dioxide pressure which forced water through a nozzle for thrust. "Cricket" was designed by the same group and is an enlarged "Alpha I". It uses acetone and dissolved CO_2. It will do 3,000 feet with a half-pound of payload. It has a recovery system that lowers the entire vehicle. A small radiosonde package has been made for this vehicle. The launcher costs several hundred dollars, but is reusable. The vehicle costs about thirty dollars and can be flown several times.

In spite of limited altitude capability, "Cricket" is in the right direction in so far as the vehicle goes. But it isn't a met rocket system.

What *should* a met rocket system be, then?

First of all, it must compete in cost with the radiosonde balloon. We are speaking of a fairly powerful rocket vehicle with its electronics, sensors, and recovery system. The only way to approach the met rocket, then, is in the light of low costs and the concomitant requirement of high-volume production. It would be quite expensive to build a few hundred such rockets; if it were possible to tool up to build several hundred *thousand* per year, overhead and depreciation of manufacturing facilities that remain fairly constant can be proportioned between many rounds rather than a few.

The big problem with *all* of the present sounding rockets is their cost, and there is a reason for this. Rockets, once developed, are not expensive or complex devices. They can be mass-produced, and the solid propellant rocket is especially suited for high-volume mass production. The cost of sounding rockets is due to the production and marketing philosophies of the organizations making them, and this brings us to the crux of the problem.

The sounding rockets are produced by firms whose major customer is the government. In any sort of government production, emphasis is placed on meeting very tight specifications, on achieving extremely high performance, and on developing very close tolerances; cost is secondary, as well as reliability. The government is perfectly happy to have 98% reliability.

On the other hand, an *industrial* customer expects 99.999999% reliability, because every minute of "down time" due to failure of a device costs money. Cost of the item itself is more of a critical factor when producing for public consumption or industry. Tolerances are, therefore, broad and high performance is not essential. To a manufacturer, cost, reliability, and ability to do the job better are the primary factors.

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The "Snoopy" met rocketsonde was an early attempt to design a complete system using a small rocket vehicle to carry a radiosonde aloft. The vehicle was only part of a complete system.

Courtesy: G. H. Stine

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Present sounding rockets have grown from military rocketry in a development history that has turned back upon itself. Big rockets are putting satellites into orbit and probing millions of miles into space. Big rockets are carrying tons of payload to ranges of several hundred or several thousand miles. Such rockets are not cheap, and they were not designed to be cheap. Nearly every attempt to produce a met rocketsonde has resulted from down-grading a military rocket. The costs of small sounding rockets are indicative of this even if one did not look closely at the rocket vehicles themselves to study the engineering used.

However, there is another form of rocketry that has been with us for centuries where cost *is* a factor, where ultimate performance is *not* critical, and where high-volume production *is* commonplace. This is pyrotechnic rocketry. Skyrockets.

Signaling rockets and line-carrying rockets grew from pyrotechnology directly. And so did the model rocket. Let us take a closer look at the model rocket.

The model rocket is cheap and very reliable. It has to be. It is mass-produced; one model rocket engine manufacturer has fully automated machinery that produces one engine every five seconds. Utmost performance is not expected, and high specific impulses are not the object of extensive research. They will be operated in the hands of unskilled and untrained persons in a variety of locations and environments. They *must* work. The most expensive model rocket engine costs slightly under one dollar and produces fifty pounds of thrust for about 1.5 seconds. This is a lot of push per penny, and the smaller engines are even better in this respect.

"Cricket," then, is a step in the right direction toward the met sounding rocket. It is an up-graded model rocket! The organization most likely to produce the first economical rocketsonde replacement for the radiosonde balloon may be a firm producing model rockets!

But the vehicle is only part of the problem. It's no difficult technical feat to up-grade a model rocket to a 150,000-foot met rocket; any *good* development engineer with a knowledge of rockets could do it.

The rocket vehicle itself must be integrated into a total system. We must carry instruments aboard, and these instruments must not only be compatible with the flight characteristics of the vehicle and the electronic characteristics of the ground equipment, they must also be as simple and cheap as possible. Take a look at a radiosonde intended for balloon flight; the rocketborne radiosonde must be at least as simple, cheap, and easy to make.

A typical 150,000-foot met rocket could reach its peak altitude in about two minutes. Its maximum velocity would be about Mach 4 at burnout. In order to possess the advantage over balloons, the rocketsonde must do the job quicker . . . and this

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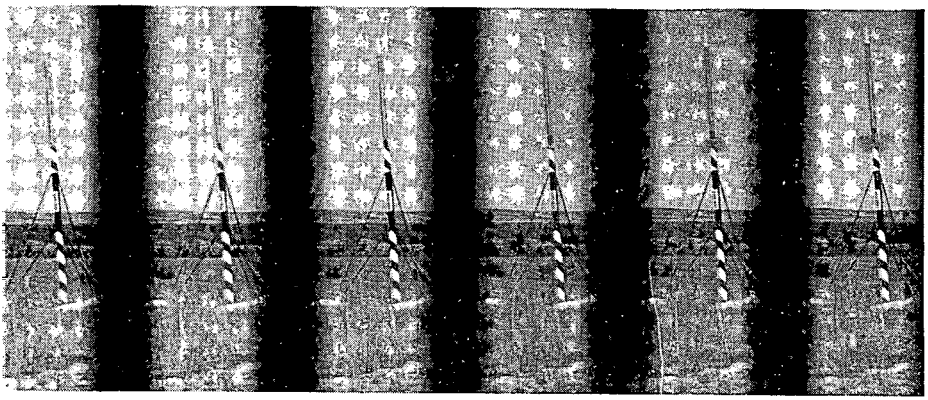

Courtesy: Atlantic Research Corporation

Launching of the ARCAS rocketsonde from its closed breech launcher at Wallops Island, Virginia. The launcher gives an extra boost to the vehicle by trapping the exhaust gases and shooting the rocket from a tube.

probably means that temperature and pressure should be sensed on the rocket's ascent. This would give the meteorologists an "instantaneous vertical profile," something they dearly wish they had. But the problems of the sensing devices are fantastic.

Consider the measurement of ambient pressure, for example, from a rocket vehicle moving at velocities from zero to four thousand feet per second. Wind tunnel and flight tests of big sounding rockets have shown that there is an area on the skin of a rocket vehicle about six diameters back from the tip of the nose where ambient pressure exists over all speed ranges. Regardless of the complicated reasons why this is so, it becomes immediately obvious that our pressure sensor should be located there. However, all the work that has been done with pressure measurement from moving rockets has been in connection with ionospheric rocketsondes where the pressure sensors were Pirani gauges and ionization gauges. These pressure sensors have excellent frequency responses—but they only work under conditions of *very* low ambient pressures in the order of a millimeter of mercury or less. They won't work at low altitudes. Therefore, even though it is possible to properly locate the sensor to measure ambient pressure from a moving vehicle, a sensor must be used that will work in the range of 760 mm. of Hg to 1 mm. of Hg. If the meteorologist wishes to look at 500-foot increments in the pressure-altitude data, this means that the vehicle is covering this distance in 125 milliseconds at burnout. In addition to having this sort of frequency response, the sensor must be able to handle the temperature of the bound-

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Courtesy: Rocketdyne

This high-speed photo sequence shows the Rocketdyne "Aeolus" met rocket emerging from its launching tube. The fins extend once the rocket has left the tube. The plastic tube also serves as the shipping container.

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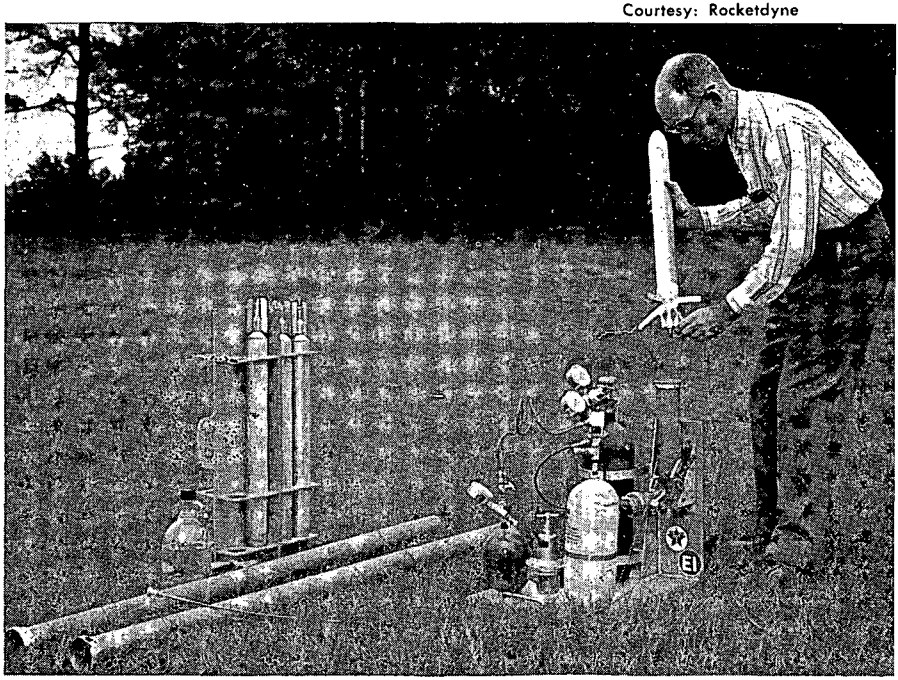
ary layer air which is about +1000° F. at burnout altitudes and velocities.

This sort of pressure pickup capable of converting pressure to electrical analog under these conditions is not cheap. In fact, it might cost substantially more than an entire radiosonde balloon if one attempted to buy it off the shelf. The standard aneroid bellows is too slow. Everything else is too expensive. In order to create a met rocketsonde system, design engineers will also have to develop a cheap, accurate, fast, and temperature-insensitive pressure sensor.

The problem of measuring ambient temperature in the lower atmosphere from a rocket vehicle moving at Mach 4 is also difficult. The obvious answer is to suspend a thermistor in the ambient airstream. But how does one determine ambient temperature from such an arrangement when high stagnation temperatures are also present? The thermistor cannot differentiate between them. It

The Rocketdyne "Aeolus" weather rocket is another attempt to produce a met rocketsonde, but has not been integrated with instrumentation or ground receiving equipment. It is a simple solid propellant, folding-fin rocket launched from a tube.

Courtesy: Rocketdyne



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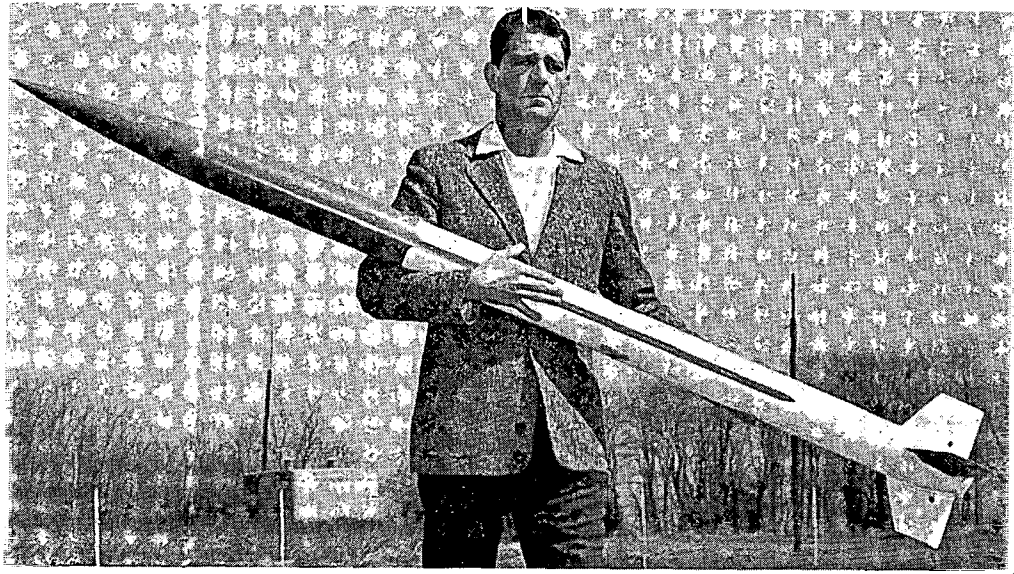

Courtesy: Texaco Experiment, Inc.

A technician prepares the "Cricket" cold-propellant sounding rocket for launching. "Cricket" is essentially an up-graded model rocket; it is cheap, reliable and safe, but has limited altitude capabilities.

might be possible to determine temperature this way if the instantaneous velocity and position of the vehicle were known, but this rings in more complication and difficult data reduction.

A thermistor bead also requires time to heat up and respond. Thermistors with millisecond response times are not inexpensive.

It might be possible to determine ambient temperature by measuring ambient pressure and ram pressure, and then working backwards to ambient temperature by means of the Taylor-Maccoll transformations. But this again involves a long and tedious data reduction method . . . or a digital computer at the ground station. This runs into money, and it is well to remember that we are talking about low-cost rocketsonde systems. People will not fall all over themselves to replace the radiosonde balloon with the met rocketsonde if the costs are too high.

Radiosonde balloons also measure humidity up to about 20,000 feet. Above this altitude, the atmospheric density has fallen so low that the chemically-treated humidity sensing plate cannot respond at all. However, when discussing the measurement of relative atmospheric humidity from a rising rocketsonde, one finally comes to the conclusion that there is no known means of doing it with the accuracy and response required. This

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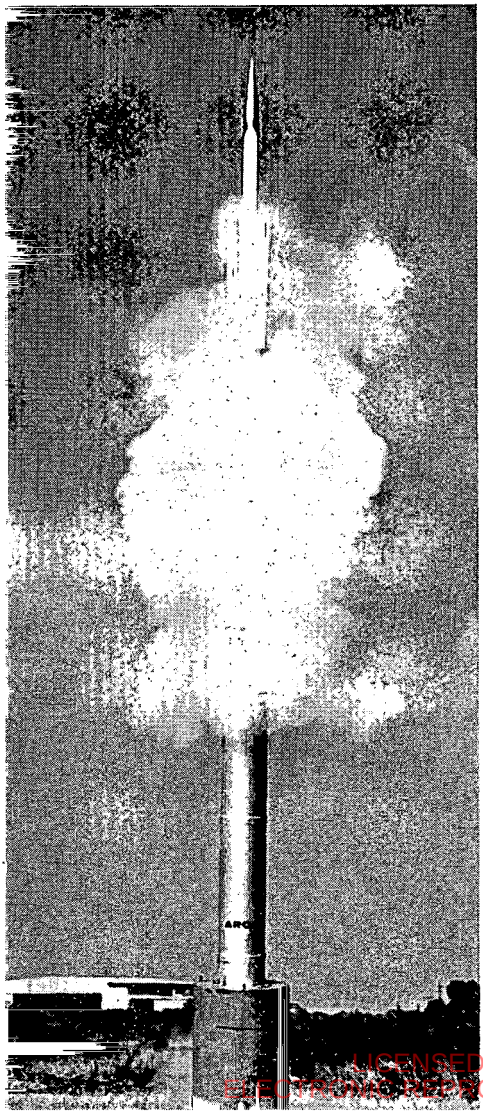
brings up an interesting point with regard to general measurement of moisture content of gases: there is no known means for measuring this important parameter quickly, simply, or easily. A sling psychrometer is simple, but it does not have a fast response. Measurements of the dielectric constant of the atmosphere as a function of water vapor present are subject to large errors due to changes in ionization of the air brought about by other causes. Spark-jumping devices have the same limitation. Other methods simply do not have the sensitivity or response. The inventor of a suitable device for dynamic measurement of moisture content of gases will have little trouble finding someone who wants it.

Courtesy: Atlantic Research Corporation.



The ARCAS rocketsonde is a small, high-performance sounding rocket specifically developed for meteorological work. It weighs less than eighty pounds.

If the met rocketsonde is to replace the radiosonde balloon, it must also exhibit the same safety characteristics. It must be fully recoverable and have a very low impact velocity—on the order of a few feet per second. Furthermore, it must be light so that impact damage is practically nil. City fathers will think more than twice before allowing meteorologists to fly weather rockets near cities and populated areas unless the vehicle has very low mass and very low impact velocity such as the present radiosonde. This means a complete recovery system, a parachute.

Any met rocketsonde must be capable of being operated by two-man crews—or less—with a minimum of

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training. They will not be rocket engineers. The system must be simple, idiot-proof, and safe to handle. This requirement alone might cause rocket designers some difficulty. But some rocket manufacturers live with this every day, particularly the model rocket people.

There is one group in the United States that has carried out systems design studies on the met rocketsonde with all these factors taken

The launching of a "Cricket" cold-propellant sounding rocket from its tubular launcher. Note the absence of extreme safety equipment and facilities.

Courtesy: Texaco Experiment, Inc.

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into account. They took it on because it appeared to be an interesting problem that required a solution one way or the other. It was a spare-time activity for fun and perhaps profit if things happened to work out. The three members of this team were Del Hitch, Grant Gray, and G. Harry Stine—whose science fact and fiction have appeared in these pages often. The trio spent some nineteen months on it; although a piece of flying hardware did not result, this group defined the problems and attempted to set forth a rational design philosophy for met rocket systems. As one who has had the opportunity to see their study results—notebooks, calculations, graphs, photographs, some development hardware, scale flight test models, et cetera—I can report that they were apparently successful in achieving their objective.

Let us look at the met rocketsonde system they designed in order to get some idea of what might be possible provided that adequate pressure and temperature sensors existed. Three different systems evolved in order during this study—"Snoopy," "Python," and "Aurora." The final design, study, "Aurora," probably indicates their most advanced thinking on the met rocketsonde problems.

The "Aurora" system included the following sub-assemblies and systems: airframe with solid propellant rocket engine, instrument package, recovery package, launcher, standard AN/GMD-1 radiosonde ground station, antenna position recorder, subcarrier discriminator chassis, met data chart recorder, and tape deck.

The characteristics of the rocket vehicle and instrumentation package are stated on page 100. The rocket vehicle itself was quite small. From the standpoint of simplicity, reliability and low cost, a free ballistic fin-stabilized solid propellant rocket vehicle was chosen. This had to meet the requirements of (a) high-rate production in volumes up to 1000 per day; (b) easy handling, preparation, and operation by radiosonde technicians with a minimum of training; (c) launching from a simple launcher after stand-by times of several days and in winds up to 30 knots; (d) low acceleration to simplify design, construction, and instrumentation; (e) recovery by means of a high-drag device so as not to cause a hazard on landing; (f) unclassified; and (g) cost between $60 and $150 per round, fully instrumented. The configuration, nose-to-tail, was recovery section, instrument section, and engine section with fins. The main tubular member of the vehicle was 4130 seamless tubing, heat treated; later models would have incorporated plastic casings. There was a minimum of machining in the vehicle components; it was designed to use rough castings, stampings, or molded parts. Assembly was by roll pins. In case of an engine failure due to a cracked propellant grain, the roll pins holding the nozzle would have sheared. When the nozzle left the rocket, the fins would go with it. The

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sudden drop in chamber pressure would cause the propellant to stop burning and the vehicle, being unstable without its fins, would have come back fluttering. If it had been high enough to have had wide dispersion in this event, the parachute timer would have deployed the parachute before landing.

The vehicle was checked out on a "go-no-go" check-out device before launch. The firing circuit would unlock and arm only if the pre-launch check was green. The launcher itself was a "silo" that amounted to a modified closed-breech launcher. The important difference between the "Aurora" launcher and the ARCAS launcher was the use of a boost charge of solid propellant in the launcher itself to provide additional exit velocity. This made it into a modified rocket catapult in which the launcher boosting charge could be increased for greater launch velocity in high winds. The silo was sealed to protect the vehicle against weather during stand-by. Although the vehicle took a jolt of about 12g's during launch, this was not considered to be a drawback to simple construction of the vehicle and its instrument package.

Gray's first package is shown on page 89. The final package used eleven commercial grade transistors and one 5794 tuned cavity tube for transmission on 1680 mc. The package was 3.5" in diameter and 8" long with a weight of two pounds,

"AURORA" MET ROCKETSONDE SYSTEM CHARACTERISTICS

Vehicle airframe:
Overall length: 40 inches
Nominal diameter: 3.75 inches
Gross weight: 22.5 pounds
Burnout weight: 10.0 pounds

Propulsion system:
Thrust: 150 pounds
Duration: 20 seconds
Total impulse: 3000 pound-seconds
Propellant weight: 12.5 pounds
Specific impulse: 240 seconds
Propellant density: 0.07 lb/in^3
Diameter of grain: 3.5 inches
Grain type: Restricted end-burning
Burning area: 9.6 in^2
Burning rate: 0.93 in/sec
Chamber pressure: 1000 psi

Performance of vehicle:
Burnout velocity: 4050 ft/sec
Burnout altitude: 35,000 ft
Peak altitude: 138,000 feet
Time to peak altitude: 100 seconds
Accelerations: +6.2g to −9.0g. 12.2g during launch, nominal.

Rocketborne package:
Weight: 2.0 pounds
Diameter: 3.50 inches
Length: 8.0 inches
Transmitting frequency: 1680 mc.
Channels: 3 to 6
Type: FM/AM
Power: 150 mw.
Construction: transistorized on modular wafers

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including batteries and sensors. Construction was, for its time, novel. All components were mounted on phenolic etched circuit discs supported by spacing rods which also acted as power and signal busses. All discs were the same diameter, and each contained a particular sub-circuit such as sensors, a sub-carrier oscillator, a power supply, batteries, recovery system timer, ground power switch-over circuitry, and r-f section. It was operated as an FM/AM telemetry system. The big problem recognized by the group was the sensor section; the sensors required considerable research, since none existed then and none exist yet.

A lot of work was done on the optimum aerodynamic characteristics of a met rocketsonde—burnout velocity vs. altitude, degree of aerodynamic cleanness required, stability parameters, drag forces, et cetera. It was discovered that a much smaller vehicle could be designed provided that thrust duration—and hence burnout altitude—could be increased.

The recovery system was just gadgetry and a parachute. An R-C timer circuit in the instrument package activated the recovery system one hundred ten seconds after takeoff. A small parachute could be used because of the low burnout weight.

Only minor modifications were required for the standard AN/GMD-1 radiosonde ground station. The existing antenna circuitry could have been used with minor modifications, and the same held true of the receiver section. The existing chart recorders would be replaced with faster continuous-strip recorders, and an additional sub-carrier discriminator chassis would be installed.

This, briefly, was the technical background of the system. The team also developed a rather extensive market study and cost analysis. The development estimate for the system showed a development time to production model of seventeen months and a cost of $100,000. Pilot production would have begun by the tenth month of the program. Full production costs were rated on the rate of production—ranging from 100 rounds per day at $115 each to 1,000 per day at $77 each. While this may be extremely optimistic, most initial estimates are. It was estimated that the conversion cost of the AN/GMD-1 would run $15,000 per station.

Some statistical analysis of flight safety of the system was made. Assuming the high reliability of the system because of the up-graded model rocket approach, the vehicle was less of a hazard, theoretically, to aircraft than a radiosonde balloon. A radiosonde balloon is a rather large object and takes nearly an hour to float up through the altitudes at which most air traffic is concentrated; the rocket vehicle is only there for less than a minute. The chances of the vehicle hitting an airplane were exceedingly remote and much better than the weather balloon. After all, as this study pointed out, the armed services go to a great deal of trouble, expense, and complexity to *deliberately* hit an

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airplane with a guided missile! Ground damage probabilities of the little rocket were of the same order of magnitude as those for a high-density aircraft runway approach.

The "Aurora" met rocketsonde system was fully within reach of our technology with the exception of the sensing elements. This should serve to point up something that instrumentation people have known for a long time: sensing elements are the heart of any instrumentation system, and they are always inadequate. We have no way of measuring dynamic moisture content of gases in terms of millisecond response; our temperature sensors are slow; our pressure sensors are either slow or expensive. However, there is also another adage in the instrumentation business to the effect that technology outstrips instruments, but instruments always catch up.

The other problem apparently involved general resistance to a new idea.

The development of a good met rocketsonde system, as we have seen, is not as simple as it looks. It can be done, but it must be done with a new approach. It must also be accompanied by sensor development. Some day, we will have a met rocketsonde system, because of its many advantages over the radiosonde balloon. There is an outstanding requirement in our society for more rapid weather data. The subsonic jet airliner initiated it, and the supersonic airliner will intensify it.

Picture in your mind the consequences: A jet flight is preparing to take off from New York. At Weather Central, an operator looks up a telephone dial code for the flight plan. He dials it into a nationwide met rocketsonde system. At forty stations across the country, met rockets come to the red alert in their launchers and equipment is warmed up. The signal goes back from each station that the rocket is ready and the ground equipment standing by. One station has trouble, and a repairman is dispatched to replace a tube, but the station is out of the net for this probe.

At the green signal, the operator in Weather Central touches the firing button, and thirty-nine met rockets streak skyward, sending back weather data to their individual ground stations. At the ground stations, the data is put on the land-line to Weather Central where it is fed into the master computers. By the time the little rockets pop their parachutes and start to descend, the ground stations are tracking for upper winds. Within a matter of minutes, the computer has produced an up-to-the-second weather map of conditions along the jet's flight.

If a met rocketsonde network can do this, there is a need for the met rocketsonde system right now. Technically, there is no reason why it couldn't happen.

THE END

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THE FISHERMAN

By CLIFFORD D. SIMAK

Third of Four Parts. He had a super-library in his head—the knowledge of a millions-of-years old entity. With the one slight difficulty that there wasn't any index, no order, and way to use it when he wanted to!

Illustrated by van Dongen

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Synopsis

There finally comes a time, in 1975 or thereabouts, when Man realizes that he is barred from space by solar radiations.

But where science failed to take Man to the stars, another method proves successful. Working against the tide of public scorn and laughter, a group of men develop paranormal kinetics, which, among other things, allow men to go to the stars, in mind, but not in body.

A center called Fishhook—since it is a fishing into space—is established in Mexico and from here men go out in mind, accompanied by machines designed for exploration and exploitation of the planets which circle other suns.

The ideas, materials and techniques which are brought back from the stars are given worldwide distribution by Fishhook through a chain of retail outlets which are known as Trading Posts.

Because of certain economic pressures brought about by Fishhook's operation, Fishhook is hated by a good part of the world. But the world can't get along without it. Like it or not, Fishhook is an established fact which the world must accept.

There is also another basis of hatred—the revival of superstition, which has been largely brought about by the early, faddish use of paranormal kinetics without an understanding of their purpose. To many people paranormal kinetics still are magic and the people who possess paranormal powers are regarded as warlocks and witches. Once again people are afraid of the dark. They paint hex signs on their gates and gables as safeguards against goblin, witch and werewolf. And outside of Fishhook they hunt down the paranormal people—called parries. Their hatred and the hunting down of parries is urged on by a new crop of puritanical reformers, who profess to see paranormal kinetics as something utterly evil.

The story opens about a century after the establishment of Fishhook. Shepherd Blaine, an explorer for Fishhook, discovers a sprawling intelligence which he thinks of as the Pinkness on a distant planet. As a way of greeting, the Pinkness swaps minds with him and Blaine goes back to Fishhook as two persons—himself and the Pinkness.

Blaine has been warned by a friend, Godfrey Stone, who has picked up an alienness on a trip to another star, that if he ever should become alien he must flee Fishhook immediately. Stone himself had disappeared after phoning to warn Blaine.

Upon his return to Fishhook, Blaine eludes Kirby Rand, Fishhook security chief, and with the help of Harriet Quimby, mysterious newspaper reporter, flees across the border into the United States.

There, however, at a little town just across the border, the two of them are attacked by a mob which spots them as parries. A sheriff, intervening, runs Harriet out of town and throws Blaine in jail. While

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Blaine is there he is visited by Father Flanagan, the parish priest, who displays considerable curiosity about paranormal people.

The mob comes for Blaine and the sheriff hands him over. Blaine is taken out to be hanged. But he escapes through the mechanism of the mind of the Pinkness, which takes him back half an hour or so in time.

The past is a dreary place. There is nothing living. Blaine presumes that all life rides on the crest of the present and leaves no traces in the past—all that is left in the past are the skeletons and shadows of the inorganic or the dead.

Escaping in this wise from the town where the people were about to hang him, Blaine gains his way back to the present and meets up with a frightened trucker named Riley. The man's truck, an ancient junk heap that barely holds together, is painted with hex signs and carries a mystery cargo. The man himself carries a shotgun loaded with silver shot to protect himself from the dwellers of the darkness.

Harriet has told Blaine, if they should be separated, to go to Pierre, South Dakota, and ask for her there. So when the trucker says he is going in that direction and asks Blaine if he wants to ride and drive the truck at night, while Riley rides shotgun, Blaine jumps at the chance.

They have almost reached South Dakota when, one night, they are jumped by a coven of witches—actually a group of teen-age paranormal levitators out on a midnight lark. Blaine snatches the shotgun from Riley's hands and orders the parries off. One of the parries, a beautiful girl named Anita Andrews, recognizing Blaine as a paranormal, offers to help get him where he wants to go, but he stays with Riley.

Riley, suspicious of Blaine, sends him out at the next stop to buy a bag of hamburgers and some coffee, then drives off and leaves him stranded.

Finding a willow thicket in which to hide himself, Blaine thinks back along the chain of circumstances which has brought him here. Thinking of the place where he found the Pinkness he suddenly finds himself back with the Pinkness once again, having traveled there without the benefit of the paranormal devices, the so-called star machines, used by Fishhook.

He and the Pinkness talk and Blaine learns that the Pinkness is an apparently deathless creature which has no memory of its beginning, no concept of an end, and that it has visited mentally millions of planets scattered through billions of cubic light-years. Its mind is cluttered with a junk heap of information which the Pinkness is constitutionally unable to sort out and put to use. Blaine realizes, with a start, that he himself has this same information, through virtue of having a carbon copy of the mind of the Pinkness superimposed upon his own mind. If he can classify it and make it available, it will be his to use.

When he returns to Earth he finds himself in a hospital. His body had

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been found, in deep coma, and brought there. In the bed alongside him lies a dying Riley. Riley's truck has gone off the road. Before he dies he tries to give Blaine a message for someone named Finn.

Blaine, searching back through his memory, recalls a Lambert Finn, who years before had been a Fishhook explorer, but had come back from the stars a screaming maniac.

Blaine is rescued from the hospital by Godfrey Stone and Harriet Quimby and as they leave the place Blaine asks Stone about Lambert Finn.

"Lambert Finn," Stone tells him, "is the most dangerous man in the world today."

Part 3

XIX

"DON'T YOU think we should drive a little farther?" Harriet asked. "If that doctor should get suspicious . . ."

Stone wheeled the car into the drive.

"Why should he get suspicious?"

"He'll get to thinking. He's puzzled by what happened to Shep and he'll get to wondering. After all, our story had a lot of holes in it."

"For one thought up on the moment, I thought we did real well."

"But we're only ten miles out of town."

"I'll want to go back tonight. I have to do some checking on what became of Riley's truck."

He braked the car to a halt in front of the unit marked Office.

"Run your head into a noose, you mean," said Harriet.

The man who had been sweeping off the steps walked over to the car.

"Welcome, folks," he said, heartily. "What can The Plainsman do for you?"

"Have you two connecting?"

"It just so happens," said the man, "we have. Nice weather we been having."

"Yes, very splendid weather."

"Might turn cold, though. Any day. It is getting late. I can remember when we had snow—"

"But not this year," said Stone.

"No, not this year. You were saying you wanted two connecting."

"If you don't mind."

"Drive right on, straight ahead. Numbers 10 and 11. I'll get the keys and be right along."

Stone lifted the car on gentle jets and slid down the roadway. Other cars were parked cozily against their units. People were unloading trunks. Others were sititng in chairs on the little patios. Down at the far end of the parkway a foursome of old codgers were loudly pitching horseshoes.

The car skidded into the space before No. 10 and settled easily to the ground.

Blaine got out and held the door for Harriet.

And it was good, he thought, it was almost like *home* to be with these two again—with two who had

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been lost and now were here again. No matter what might happen, he was with his own once more.

The motel sat atop the bluffs above the river and from where he stood he could see the wide sweep of terrain north and east—the bald, brown bluffs and the erosion of the timbered gullies and ravines that ran down to the river valley, where a tangled expanse of ragged woods hemmed in the chocolate-flowing stream which meandered with an uneasiness of purpose, as if it could not quite make up its mind where it wished to go, leaving behind it, as landmarks of its indecision, isolated ponds and lakes and crazily winding sloughs as erratic in their course as the river ever could be.

There was a cleanness and a roominess that caught one's imagination. There was a breath of freshness and the sense of space.

The manager came trotting down the walk, jangling a couple of keys. He unlocked the doors and flung them open.

"You'll find everything O.K., he said. "We are very careful. There are shutters for all windows and the locks, throughout, are the best available. You'll find a supply of hex signs and good-luck charms in the supply cabinet. We used to have them installed, but we found our guests have their own ideas on how they are best used."

"That," said Stone, "is very thoughtful of you."

"It is good," said the manager, "to be snug and under cover."

"You said a mouthful, pal," said Stone.

"And we have a restaurant up front—"

"We'll be using it," said Harriet. "I am almost starved."

"You can stop on your way," said the manager, "and sign the register, if you would."

"Of course," said Harriet.

He handed her the keys and went jogging up the walk, bobbing and bowing in merry host-ship to the occupants of the other units.

"Let's get inside," said Stone.

He held the door for Harriet and Blaine, then stepped in himself and closed the door behind him.

The interior of the room was dim and shadowed and there was a clean, neutral, public smell about it. It was not a home, thought Blaine, nor yet a house. It was a shelter, that was all it was. A huddling place against the fall of night.

Harriet tossed the keys down on a dresser and turned around to look around the room.

"And you," she said to Blaine. "Whatever happened to you? I went back to that place on the border and the town was in a stew. Something dreadful had happened. I never found out what. I never had a chance to learn. I had to get out fast."

"I got away," Blaine told her.

Stone held out his hand. "You did it better than I did. You got clean away."

Blaine's hand was engulfed in Stone's great fist and held there—not

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shaken up and down, but held there.

"It's good to have you here," said Stone.

"You phoned that night," said Blaine, "or I'd been caught flat-footed. I remembered what you said. I didn't wait around for them to put the finger on me."

Stone let go of his hand and they stood facing one another and it was a different Stone who stood there than the one that Blaine remembered. Stone had always been a big man and he was still a big man, but now the bigness was not only physical and external—there was a bigness of the spirit and of purpose that one must sense immediately at the sight of him. And a hardness that had not been there before.

"I am not sure," Blaine told him, "that I've done you any favor, showing up like this. I traveled slow and awkward. By now Fishhook more than likely has a hounder on me."

Stone made a motion to dismiss the thought, almost a motion of impatience, as if Fishhook could not matter here, as if Fishhook mattered nowhere any more.

He moved across the room and sat down in a chair.

"What happened to you, Shep?"

"I got contaminated."

"So did I," said Stone.

He was silent for a moment, as if he might be thinking back to that time when he had fled from Fishhook.

"I turned from the phone," he said, "and they were waiting for me. I went along with them. There was nothing else to do. They took me to a place—" (*A great sprawling place set upon a seacoast, with one huge rambling house—white, so white it glistened—with the sky so blue above it that the blueness hurt one's eyes, a blue that picked up and reflected back the brightness of the sun, and yet a blue with depth that one could gaze into so far that he was lost in distance. And around the sprawling building, other buildings that fell short of the sprawling big house only because of their lack of size. A sweep of lawn that one knew instantly could grow so lushly only by the virtue of constant watering. Beyond the green of lawn lay a snow-white strip of sandy beach and the green-blue of the ocean with the froth of spray thrown high into the air where the surf came hammering in on the rocks beyond the beach. And upon the beach the gypsy color of many unbrellas—*

"It was, I found out later, in Baja, California. A perfect wilderness of a place with this fabulous resort planted in the wilderness—" (*The golf course flags flapping in the ocean breeze, the flat white rectangles of the tennis court, the patio with the guests sitting idly and talking, waiting for the liquor carts and the sandwich trays and dressed in vacation costumes that were impeccable.*) "There was fishing such as you had never dreamed of and hunting in the hills and swimming the entire year around—"

"Hard to take," said Harriet, idly.

"No," said Stone, "not hard to take

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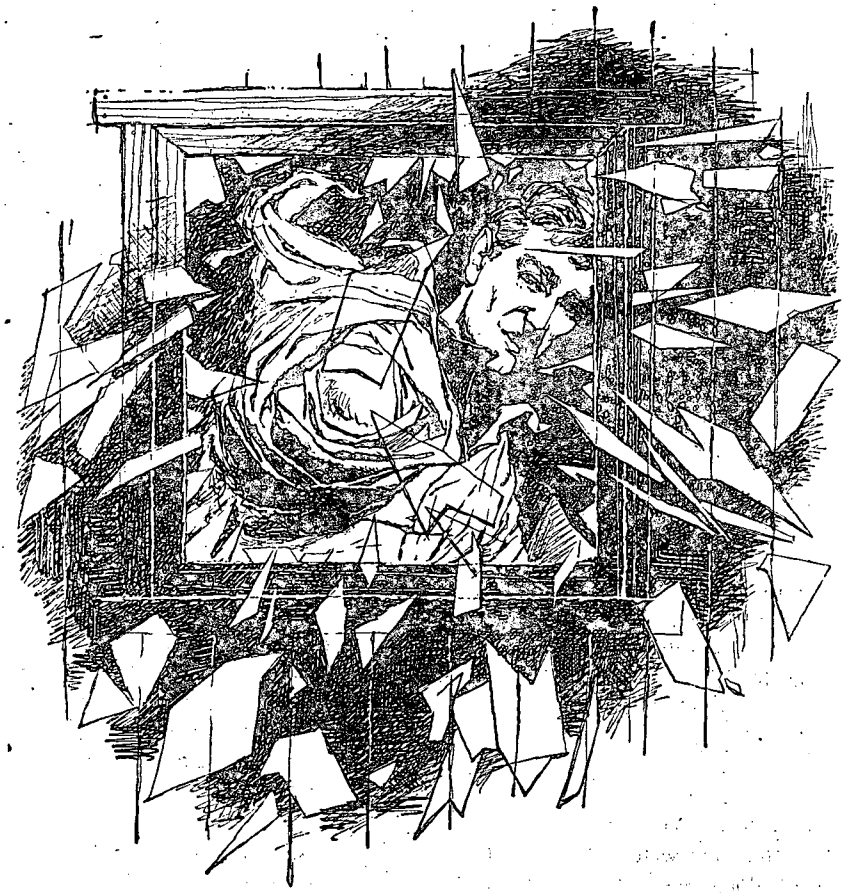
at all. Not for six weeks. Not even for six months. There was everything a man might want. There was food and drink and women. Your slightest wish was filled. Your money was no good. Everything was free."

"But I can see," said Blaine, "how a man might—"

"Of course you can," said Stone. "The utter uselessness. As if someone had taken you, a man, and turned you back into a boy, with nothing left but play. And yet Fishhook was being kind. Even as you hated it and resented it and rebelled against it, you could see their point. They had nothing against us, really. There had been no crime, no negligence of duty—that is, with most of us there hadn't. But they couldn't take the chance of continuing to use us and



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they could not turn us loose, for there must, you understand, be no blot upon the Fishhook name. It never must be said of them that they turned loose upon the world a man with a streak of alienness, with a mind or an emotion that deviated even by a hairbreadth from the human viewpoint. So they gave us a long vacation—an endless vacation—in the kind of place that millionaires inhabit.

"And it was insidious. You hated it and still you could not leave, for common sense would tell you that you were a fool to leave it. You were living safe and high. There was no question of security. You really had it made. You thought about escaping—although you could scarcely think of it as escape, for there was nothing really holding you. That is, until you tried. Then you found out about the guards and outposts. Only then you learned that every trail and road was covered. This despite the fact that a man afoot would have been committing suicide to go charging out into the land. You found out, by slow degrees, about the men who watched you all the time—the men who posed as guests but were really Fishhook agents who kept an eye on every one of you, waiting for the sign that you were getting set, or even thinking of getting out of there.

"But the bars that held you, the bars that kept you in were the luxury and soft living. It is hard to walk out on a thing like that. And Fishhook knows it is. It is, I tell you, Shep, the tightest prison man has yet devised."

"But, like any other prison, it made you tough and hard. It made you fight to get tough and hard, to get tough enough to make up your mind, and hard enough, once you'd made it up, to carry out your plan. When you learned about the spies and guards you got sly and clever and those very spies and guards were the ones who gave you purpose. Fishhook overplayed its hand by building in any security at all, for none was really needed. Left to yourself, you might have escaped every second week, but come trailing back when you found how rough it was outside. But when you found that there were physical barriers—when you found out about the men and guns and dogs—then you had a challenge and it became a game and it was your life you were shoving out into the pot—"

"But," said Blaine, "there couldn't have been too many escapes, not even many tries. Otherwise Fishhook would have dreamed up new angles. They'd never let it stand."

Stone grinned wolfishly. "You're right. There were not many who ever made it. There were few who even tried."

"Lambert," Stone said, dryly, "was a daily inspiration for me. He'd escaped some years before I was taken there. And there was one other, years before Lambert. No one knows to this day what ever happened to him."

"Well, O.K.," asked Blaine. "What does happen to a man who escapes

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from Fishhook, who runs away from Fishhook? Where does he end up? Here I am, with a couple of dollars in my pocket that aren't even mine, but belong to Riley, without identity, without a profession or a trade. How do I—"

"You sound as if you might regret having run away."

"There are times I have. Momentarily, that is. If I had it to do over, I'd do it differently. I'd have it planned ahead. I'd transfer some funds to some other country. I'd have a new identity all worked out and pat. I'd have boned up on something that would turn me into an economic asset—"

"But you never really believed that you'd have to run. You knew it had happened to me, but you told yourself it couldn't happen to yourself."

"I guess that is about the size of it."

"You feel," said Stone, "that you've turned into a misfit."

Blaine nodded.

"Welcome to the club," said Stone.

"You mean—"

"No, not me. I have a job to do. A most important job."

"But—"

"I'm speaking," Stone told him, "of a vast segment of all mankind. I have no idea how many million people."

"Well, of course, there always were—"

"Wrong again," said Stone. "It's the parries, man, the parries. The parries who are not in Fishhook. You couldn't have traveled almost a thousand miles and—"

"I saw," said Blaine, a cold shudder building in him, an icelike quality that was neither fear nor hate, but a part of both. "I saw what was happening."

"It's a waste," said Stone. "A terrible waste, both to the parry and the human race. Here are people who are being hunted down, people who are forced into ghettos, people who are reviled and hated—and all the time, within them lies the hope of humankind.

"And I tell you something else. It is not only these intolerant, bigoted, ignorant savages who think of themselves as normal human beings who are to blame for the situation. It is Fishhook itself; Fishhook which must bear part of the blame. For Fishhook has institutionalized paranormal kinetics for its own selfish and particular purpose. It has taken care, most excellent care, of those parries like you and I, handpicking us to carry on their work. But they've turned their face against the others. They have given not a sign that they might care what might happen to them. All they'd have to do is stretch out their hand and yet they fail to do it and they leave the other parries in the position of wild animals running in the woods."

"They are afraid—"

"They just don't give a damn," said Stone. "The situation as it stands suits them to the ground. Fishhook started as a human crusade. It has turned into one of the greatest mo-

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nopolies the world has ever known —a monopoly that is unhampered by a single line of regulation or restriction, except as they may choose to impose upon themselves."

"I am hungry," Harriet announced.

Stone paid her no attention. He leaned forward in his chair.

"There are millions of these outcases," he declared. "Untrained. Persecuted when they should be given all encouragement. They have abilities at this very moment that mankind, also at this very moment, needs most desperately. They have untrained and latent talents that would prove, if exercised, greater than anything that Fishhook ever has attained.

"There was a time when there was a need for Fishhook. No matter what may happen, no matter what event, the world owes Fishhook more than it ever can repay. But the time has come when we no longer have any need of Fishhook, Fishhook today, so long as it ignores the parries who are not within its fold, has become a brake upon the advancement of the human race. The utilization of PK must no longer remain a monopoly of Fishhook."

"But there is this terrible prejudice," Blaine pointed out. "This blind intolerance—"

"Granted," Stone told him, "and part of it was earned. PK was abused and used, most shamefully used for selfish and ignoble reasons. It was taken and forced into the pattern of the old world that now is dead. And for that reason the parries have a guilt complex. Under this present persecution and their own deep-rooted sense of guilt they cannot operate effectively, either for their own good or for the benefit of humanity. But there is no question that if they could operate openly and effectively, without the pressure of public censure, they could do far more than Fishhook, as it now is constituted, ever can accomplish. And if they were allowed to do this, if they could only be allowed to show that non-Fishhook PK could operate for human betterment, then they'd become accepted and instead of censure would have support and encouragement and in that day, Shep, Man would have taken a great step forward.

"But we must show the world that PK is a human ability and not a Fishhook ability. And furthermore than that—if this could be done, then the entire human race would return to sanity and would regain its old-time self-respect."

"You're talking in terms," Blaine told him, "of cultural evolution. It is a process that will take some time. In the end, of course, it may work out naturally—another hundred years."

"We can't wait!" cried Stone.

"There were the old religious controversies," Blaine pointed out. "War between Protestant and Catholic, between Islam and Christianity. And where is it all now? There was the old battle between the communist dictatorships and the democracies—"

"Fishhook helped with that. Fish-

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hook became a powerful third force."

"Something always helps," said Blaine. "There can be no end to hope. Conditions and events become so ordered that the quarrel of yesterday becomes an academic problem for historians to chew on."

"A hundred years," said Stone. "You'd wait a hundred years?"

"You won't have to," Harriet told him. "You have it started now. And Shep will be a help."

"Me?"

"Yes, you."

"Shep," said Stone, "please listen."

"I am listening," said Blaine, and the shudder was growing in him once again, and the sense of alienness, for there was danger here.

"I have made a start," said Stone. "I have a group of parries—call them underground, call them cadre, call them committee—who are working out preliminary plans and tactics for certain experiments and investigations that will demonstrate the effective action which the free, non-Fishhook parries can contribute to their fellow men—"

"Pierre!" exclaimed Blaine, looking at Harriet.

She nodded.

"And this is what you had in mind from the very start. At Charline's party you said old pal, old friend—"

"Is it so bad?" she asked.

"No, I don't suppose it is."

"Would you have gone along," she asked, "If you'd known of it?"

"I don't know. Harriet, I honestly don't know."

Stone rose from his chair and walked the step or two to Blaine. He put out both his hands and dropped them on Blaine's shoulders. His fingers tightened hard.

"Shep," he said, solemnly. "Shep, this is important. This is necessary work. Fishhook can't be the only contact Man has with the stars. One part of the human race cannot be free of earth and the rest remain earthbound."

In the dim light of the room his eyes had lost their hardness. They became mystical, with the shine of unshed tears.

His voice was soft when he spoke again. "There are certain stars," he said, almost whispering, as if he might be talking to himself, "that men must visit. To know what heights the human race can reach. To save their very souls."

Harriet was busily gathering up her handbag and her gloves.

"I don't care," she announced. "I am going out to eat. I am simply starved. You two coming with me?"

"Yes," said Blaine, "I'll go."

Then suddenly remembered.

She caught the thought and laughed softly.

"It'll be on us," she said. "Let us say in part payment for the times you fed the both of us."

"No need to be," said Stone. "He's already on the payroll. He's got himself a job. How about it, Shep?"

Blaine said nothing.

"Shep, are you with me? I need you. I can't do without you. You're the difference I need."

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"I am with you," Blaine said simply.

"Well, now," said Harriet, "since that is settled, let us go and eat."

"You two go along," said Stone. "I'll hold the fort."

"But, Godfrey—"

"I've got some thinking that I have to do. A problem or two—"

"Come along," Harriet said to Blaine. "He wants to sit and think."

Puzzled, Blaine went along with her.

XX

Harriet settled herself resolutely and comfortably in her chair as they waited for their orders.

"Now tell me all about it," she demanded. "What happened in that town? And what has happened since? How did you get in that hospital room?"

"Later," Blaine objected. "There'll be time later on to tell you all of that. First tell me what is wrong with Godfrey."

"You mean him staying back in the room to think."

"Yes, that. But there is more than that. This strange obsession of his. And the look in his eyes. The way he talks, about men going to the stars to save their souls. He is like an old time hermit who has seen a vision."

"He has," said Harriet.

Blaine stared.

"It happened on that last exploratory trip," said Harriet. "He came back touched. He had seen something that had shaken him."

"I know," said Blaine. "There are things out there—"

"Horrible, you mean."

"Horrible, sure. That is part of it. Incomprehensible is a better word. Processes and motives and mores that are absolutely impossible in the light of human knowledge and morality. Things that make no sense at all, that you can't figure out. A stone wall so far as human understanding is concerned. And it scares you. You have no point of orientation. You stand utterly alone, surrounded by nothing that was ever of your world."

"And yet you stand up to it?"

"I always did," said Blaine. "It takes a certain state of mind—a state of mind that Fishhook drills into you everlastingly."

"With Godfrey it was different. It was something that he understood and recognized. Perhaps he recognized it just a bit too well. It was goodness."

"Goodness!"

"A flimsy word," said Harriet. "A panty-waist of a word. A sloppy kind of word, but the only word that fits."

"Goodness," Blaine said again, as if he were rolling the word about, examining it for texture and for color.

"A place," said Harriet, "where there was no greed, no hate, no driving personal ambition to foster either hate or greed. A perfect place with a perfect race. A social paradise."

"I don't see—"

"Think a minute and you will. Have you ever seen a thing, an object, a painting, a piece of statuary, a

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bit of scenery, so beautiful and so perfect you ached when you looked at it?"

"Yes. A time or two."

"Well, then—a painting or a piece of statuary is a thing outside the human life, your life. It is an emotional experience only. It actually has nothing at all to do with you yourself. You could live very well the rest of your life if you never saw it again, although you would remember it every now and then and the ache would come again at the memory of it. But imagine a form of life, a culture, a way of life, *a way you, yourself could live*, so beautiful that it made you ache just like the painting, but a thousandfold more so. That's what Godfrey saw, that is what he talked with. That is why he came back touched. Feeling like a dirty little boy from across the tracks looking through the bars into fairyland—a real, actual, living fairyland that he could reach out and touch but never be a part of."

Blaine drew in a long breath and slowly let it out.

"So that is it," he said. "That is what he wants."

"Wouldn't you?"

"I suppose. If I had seen it."

"Ask Godfrey. He will tell you. Or, come to think of it, don't ask him. He'll tell you anyhow."

"He told you."

"Yes."

"And you are impressed."

"I am here," she said.

The waitress came with their orders—great sizzling steaks, with baked potatoes and a salad. She set a coffee bottle in the center of the table.

"That looks good," said Harriet. "I am always hungry. Remember, Shep, that first time you took me out?"

Blaine smiled. "I'm not apt to forget it. You were hungry that time, too."

"And you bought me a rose."

"It seems to me I did."

"You're a sweet guy, Shep."

"If I recall correctly, you're a newspaper gal. How come—"

"I'm still working on a story."

"But—"

She put out a hand and laid it on his sleeve. "Shep, you don't understand. There are a lot of different kinds of stories, a lot of ways to get them. There is the story of what a certain man may say about a certain situation. That is an interview. You do it in an hour or two. Or you cover a meeting of some board or council or commission. Then you sit down and write what happened there and that's another story. But there are stories that may take months or years. You may not work at them all the time, but you keep your eyes open and you listen closely and talk to a lot of people. And some day the pieces come together and you have your story."

"Fishhook," said Blaine. "Fishhook is your story."

"Part of it," she said, returning to her steak.

They ate for a while with very little talk.

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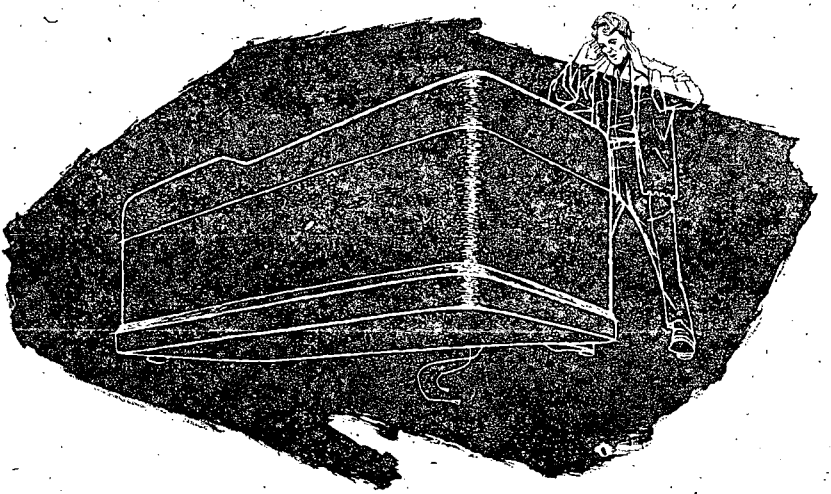
Eating, Blaine recalled Stone as he had sat and talked, with absolute conviction, of Fishhook obsolescence, of the need to free for the benefit of mankind the strange, far-reaching abilities locked inside the parries who were outside of Fishhook.

Like a man, Blaine thought, who had been stricken with a latter-day religion. And that essentially was what it was, although Stone's social paradise was no religion, unless



ethics could be considered a religion.

A man who had a glimpse of the glory that could be mankind's, of the ultimate justice that had no need of justice.

"There is one other thing," he said. "Just what gives with Finn? Godfrey said he was dangerous."

"What do you know of Finn?"

"Not much of anything. He was out of Fishhook before I tied up with it. But the story went around. He came back screaming. Something happened to him."

"Something did," said Harriet. "And he's been preaching it up and down the land."

"Preaching?"

"Hell and brimstone preaching. Bible pounding preaching, except there is no Bible. The evil of the stars. Man must stay on Earth. It's the only safe place for him. There is evil out there. And it has been the parries who have opened up the gates to this spawn of evil—"

"And the people swallow that?"

"They swallow it," said Harriet. "They wallow in it clear up to their middles. They absolutely love it. They can't have the stors, you see. So there's satisfaction to them that the stars are evil."

"And the parries, I suspect, are

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evil, too. They are ghouls and werewolves—"

"And goblins," said Harriet. "And witches. And harpies. You name it and they're it."

"The man's a mountebank."

Harriet shook her head. "Not a mountebank. He's as serious as Godfrey. He believes the evil. Because, you see, he saw the evil."

"And Godfrey saw the good."

"That's it. It's as simple as all that. Finn is just as convinced Man has no business among the stars as Godfrey is convinced he'll find salvation there."

"And the both of them are fighting Fishhook."

"Godfrey wants to end the monopoly, but retain the structure. Finn goes farther. Fishhook's incidental to him. PK is his target. He wants to wipe it out."

"And Finn's been fighting Stone."

"Harassing him," said Harriet. "There's no way to fight him, really. Godfrey shows little for anyone to hit at. But Finn found out about him and sees him as the one key figure who can prop the parries on their feet. If he can, he'll knock him out."

"You don't seem too worried."

"Godfrey's not worried. Finn's just another problem, another obstacle."

They left the restaurant and walked down the strip of pavement that fronted on the units.

The river valley lay in black and purple shadow with the river a murky bronze in the dying light of day. The tops of the bluffs across the valley still were flecked with sunlight and far up in the sky a hawk still wheeled, wings a silver flash as he tilted in the blue.

They reached the door of the unit and Blaine pushed it open and stood aside for Harriet, then followed. He had just crossed the threshold when she bumped into him as she took a backward step.

He heard the sharp gasp in her throat and her body, pressed against his, went hard and tense.

Looking over her shoulder, he saw Godfrey Stone, face downward, stretched upon the floor.

XXI

Even as he bent above him, Blaine knew that Stone was dead. There was a smallness to him, a sort of essential withering of the human form, as if life had been a basic dimension that had helped to fill him out. Now he was something less than six feet of limp body clothed in crumpled cloth and the motionless of him was somehow very dreadful.

Behind him, he heard Harriet pulling shut the door and shooting home the bolts. And in the clatter of the bolts he thought he heard a sob.

He bent down for a closer look and in the dimness could make out the darker shine of hair where the blood had oozed out of the skull.

The window shutters creaked and groaned, sliding home with a clatter as Harriet shoved the lever that controlled them.

"Maybe, now," he said, "we can have a little light."

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"Just a minute, Shep."

The lighting toggle clicked and light sprang from the ceiling and in the glare of it, Blaine could see how a heavy blow had crushed in the skull.

There was no need to hunt for pulse, no need to listen for a heartbeat. No man could live with his skull so out of shape.

Blaine rocked back and teetered, crouched upon his toes, marveling at the ferocity and, perhaps, the desperation, which must have driven the arm that had delivered such a blow.

He looked at Harriet and nodded quietly, wondering at her calmness, then remembering, even as he wondered, that in her reporting days violent death could have been no stranger to her.

"It was Finn," she said, her voice quiet and low, so quiet that one could sense the checkrein she'd put upon herself. "Not Finn, himself, of course. Someone that he hired. Or someone that volunteered. One of his wide-eyed followers. There are a lot of people who'd do anything for him."

She came across the room and squatted across the corpse from Blaine. Her mouth was set in a straight, grim line. Her face was pinched and stern. And there was a streak down her face where a single tear had run.

"What do we do now?" he asked. "The police, I would imagine."

She made a restraining motion with her arm.

"Let me think," she said.

It was impossible, Blaine told himself—impossible that this had happened. Less than an hour ago he'd stood here, talking with this man who lay upon the floor. Only a few hours before that they'd met for the first time after three long years.

He remembered the time, back in Fishhook, that he and Stone had spent together and the night the phone rang.

"Not the police," said Harriet. "We can't afford to get tangled up in this. That would be exactly what Finn and his crew would want. What do you bet that someone has phoned the police already?"

"You mean the killer."

"Certainly. Why not? Just a voice saying that a man has been killed in unit No. 10 out at The Plainsman. Then hang up real quick."

"To put us on the spot?"

"To put whoever was with Godfrey on the spot. They maybe even know who we are. That doctor—"

"I don't know," said Blaine. "He may have."

"Listen, Shep, I'm positive from all that's happened that Finn is in Belmont."

"Belmont?"

"That town we found you in."

"So that's the name of it."

"There's something happening," she said. "Something happening right here. Something important going on. There was Riley and the truck and—"

"But what are we to do?"

"We can't let them find Godfrey here."

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"We could pull the car out back and take him out the back door."

"There's probably someone watching. Then they'd have us cold."

She beat her hands together in exasperation.

"If Finn has a free hand now," she said, "he probably can pull off what ever he is planning. We can't let him put us out of action. We have got to stop him."

"We?"

"You and I. You step into Godfrey's shoes. Now it's up to you."

"But I—"

Her eyes blazed suddenly. "You were his friend. You heard his story. You told him you were with him."

"Sure I did," said Blaine. "But I am starting cold. I don't know the score."

"Stop Finn," she said. "Find out what he's doing and stop him in his tracks. Fight a delaying action—"

"You and your military thinking. Your delaying actions and your lines of retreat laid out." (*A very female general with enormous jackboots and a flock of medals . . .*)

Cut that out!

A newspaper gal. And you are objective.

"Shep," she said, "shut up. How can I be objective. I believed in Godfrey. I believed in what he was doing."

"I suppose that I do, too. But it is all so new, so quick—"

"Maybe we should just cut and run."

"No! Wait an minute. If we cut and run we'd be out of it as surely as if they caught us here."

"But, Shep, there is no way."

"There just might be," he told her. "Is there a town around here by the name of Hamilton?"

"Why, yes, just a mile or two away. Down by the river."

He sprang to his feet and glanced about the room.

The phone sat on the night table between the single beds.

"What—"

"A friend," said Blaine. "Someone that I met. Someone who might help us. A mile or two away?"

"Yes, Hamilton is. If that is what—"

"It is," said Blaine.

He stepped swiftly across the room and picked the handpiece out of the cradle. He dialed for operator.

"I want to get a number in Hamilton. How do I go about it?"

"What is the number, sir?"

"276."

"I will ring it for you."

He turned his head toward Harriet. "Is it getting dark outside?"

"It was getting dark when I closed the shutters."

He heard the purring of the signal on the wire.

"They'll need some darkness," he said. "They couldn't come in—"

"I don't know," said Harriet, "what you could be up to."

"Hello," said a voice in the phone.

"Is Anita there?"

"Right here," said the voice. "Just a moment." *Anita, for you. A man.*

And that was impossible, Blaine

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thought wildly. You simply couldn't do it. Perhaps he'd imagined it.

"Hello," said Anita Andrews. "Who is this?"

Blaine. Shepherd Blaine. Remember. I was with the man who had the shotgun. With the silver shot.

Yes, I remember you.

And it was true, he thought. He had not imagined it. You *could* use telepathy on the telephone!

You said that if I ever needed help.

Yes, I told you that.

I need help now. (A body on the floor; police car coming down the road, red light flashing, siren howling; a speedometer and clock that had sprouted legs and were racing for a tape; the sign that said The Plainsman, the unit number on the door) I swear to you, Anita. This is on the level. I can't explain right now. But this is on the level. I can't let them find him here.

We'll take him off your hands.

On faith?

On faith alone. You were square with us that night.

Hurry!

Right away. I'll bring some others.

"Thanks, Anita." But she was already gone.

He stood there, holding the receiver out from his face, staring at it, then slowly put it in the cradle.

"I caught part of that," said Harriet. "It isn't possible."

"Of course it's not," said Blaine. "Telly transmission on a wire. You don't have to tell me."

He stared down at the man lying on the floor. "It's one of the things he talked about. Greater than Fishhook could ever be, he said."

Harriet didn't answer.

"I wonder how much else they have," said Blaine.

"She said they'd come for Godfrey. How will they come for him?"

There was a hint of hysteria in her voice.

"They fly," he told her. "They are levitators. Witches."

He made a bitter laugh.

"But you—"

"How did I know them? They ambushed us one night. Just out to raise some hell. Riley had a shotgun—"

"Riley!"

"The man in the hospital room, remember? The man who died. He was in an accident."

"But, Shep, were you with Riley? How did you come to be with him?"

"I hitched a ride. He was scared at night. He wanted someone with him. We nursed that ramshackle truck—"

She was staring at him, a startled look about her.

"Wait a minute," he said. "You said something back there in the hospital. You said you were—"

"Looking for him. Godfrey had hired him and he was late and—"

"But—"

"What is it, Shep?"

"I talked to him just before he died. He tried to give me a message, but he couldn't get it out. The message was for Finn. That was the first I heard of Finn."

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"Everything went wrong," said Harriet. "Every blessed thing. There was the star machine—"

She stopped what she was saying and came across the room to stand beside him. "But you don't know about the star machine. Or do you?"

He shook his head. "Like the ones in Fishhook? The ones that helped us to the stars?"

She nodded. "That's what Riley was hauling in his truck. Godfrey had arranged to get it and he had to get it moved to Pierre somehow. So he hired Riley—"

"A bootleg star machine!" said Blaine, a little awed. "You know that every nation in the world has laws against possessing them. They're only legal if they are in Fishhook."

"Godfrey knew all that. But he needed one. He tried to build one, but he couldn't. There aren't any blueprints."

"You bet your life there aren't."

"Shep, what is wrong with you?"

"I don't know. There's really nothing wrong. A bit confused, perhaps. At how, all along the line, I was pitchforked into this."

"You can always run."

"Harriet, you know better. I am through with running. There's no place for me to go."

"You could always approach some business group. They'd be glad to have you. They'd give you a job, pay you plenty for what you know of Fishhook."

He shook his head, thinking back to Charline's party, with Dalton sitting there, long legs outstretched, his hair a rumpled mouse-nest, his mouth mangling the cigar. And Dalton saying: "In a consultive capacity you'd be worth a lot of money."

"Well, you could," said Harriet.

"I couldn't stomach it. Besides, I made a promise. I told Godfrey I was with him. And I don't like the way that things are going. I don't like people taking me out to hang me because I am a parry. I don't like some of the things I saw along the road and—"

"You're bitter," she said.

"And you?"

"Not bitter. Just scared. Scared down to the marrow."

You scared! A tough newspaper gal—

He turned toward her, remembering something—the place where the old blind woman sold the roses. That night, he had seen the mask slip from Harriet Quimby and this was the second time.

Her face told him the truth—the tough newspaper gal also, at times, could be a frightened woman.

He half lifted his arms and she crossed the little space between them. He held her close against him and she was soft and pliant, not hard, not made of steely purpose, but very human flesh.

It'll be all right, he said. *Everything will be all right.*

And wondered at the sudden tenderness and protectiveness he felt, which certainly was alien in any relation he might have with this girl within his arms.

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But the truck is wrecked and the trucker's dead and the police, or maybe even Finn, have the star machine. And now Godfrey's lying dead and the police are coming . . .

We'll lick them all, he told her. *There's nothing that can stop us—*

A siren sounded from far off, a wail torn by the prairie wind.

She sprang away from him. "Shep, they're coming!"

"The back door!" Blaine said, quickly. "Run toward the river. We'll get down into the breaks."

He sprang toward the door and as his fingers found the bolt, there was a tapping on it.

He threw back the bolt and jerked open the door and standing in the fan of light that came pouring from the room was Anita Andrews and back of her other youthful faces.

"Just in time," said Blaine.

"This body?"

"Over there," he said.

They came in with a rush.

The siren was much closer.

"He was a friend of ours," said Harriet, uncertainly. "This seems a dreadful way—"

"Miss," Anita said, "we'll take care of him."

The siren was a steady howl that seemed to fill the room.

Quick! Anita said. *Fly low. You don't want to silhouette against the sky.*

Even as she spoke the room was emptying and there was no body on the floor.

She hesitated for a moment, looking at the two of them.

Someday you'll tell me what this is all about?

Someday, said Blaine. *And thanks.*

Any time, she said. *We parries stick together. We have to stick together. They'll smash us if we don't.*

She swung toward Blaine and he felt the touch of her, mind against mind, and there was suddenly the sense of fireflies in the evening dusk and the smell of lilacs drifting in the softness of a river fog.

Then she was gone and the door was closing and someone was hammering at the front.

Sit down, Blaine said to Harriet. *Act as naturally as you can. Unconcerned. Relaxed. We were just sitting here and talking. Godfrey had been with us, but he went into town. Someone came and he rode into town with them. We don't know who it was. He should be back in an hour or two.*

Check, said Harriet.

She sat down in a chair and folded her hands in her lap sedately.

Blaine went to the door to let in the law.

XXII

Belmont was beginning to close up. All the houses, as they drove past, had been tightly shuttered, and in the business district, as they drove into it, the shop lights were going out.

Up the street a block or two, the marquee of the hotel still gleamed brightly in the dusk and just this side of it was a flashing sign that pro-

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claimed the Wild West bar still was willing to take on a customer.

"I don't think," said Harriet, "that we fooled those police too much."

Blaine agreed. "Maybe not. But we had them stopped. There was nothing they could find."

"I thought for a while they would pull us in."

"So did I. But you sat there making gentle fun of them. That was hard to take. They were glad to get away. They must have felt like fools."

He motioned at the flashing bar sign. "Maybe we should start with that."

"As good a place as any. Likewise, about the only place there is."

The bar was empty when they came into the place. The bartender had an elbow propped and was idly dabbing with a cloth at imaginary wet spots.

Blaine and Harriet hoisted themselves onto stools opposite the man.

"What'll it be?" he demanded of them.

They told him.

He got glasses and reached for bottles.

"Little slow tonight," said Blaine.

"Almost closing time," said the man. "They don't stick around. Soon as it gets dark folks get under cover. Everyone in this town."

"Bad town?"

"No, not especially. It's the curfew law. This place has got a tough one. Patrols all over the place and them cops are tough. They really make it stick."

"How about yourself?" asked Harriet.

"Oh, I am all right, miss. The boys, they know me. They know the circumstances. They know I got to stick around just in case a late customer, like you, drops in. From the hotel mostly. They know I got to get the place tucked in and turn out the lights. They give me extra minutes."

"Sounds tough, all right," said Blaine.

The barkeep wagged his head. "For your own protection, mister. Folks ain't got no sense. If it wasn't for the curfew, they'd stay out to all hours where anything could get them."

He stopped what he was doing.

"I just happened to think," he announced. "I got something new. You who might like it."

"Like what?" asked Harriet.

He reached back and got the bottle, held it up to show them.

"Something new," he said. "Straight out of Fishhook. They picked it up some outlandish place. Sap of a tree or something. Probably loaded with a lot of hydrocarbons. I got a couple of bottles off the factor at the Trading Post. Just to try, you know. Thought there might be some folks who might like it."

Blaine shook his head. "Not for me. God knows what is in it."

"Me, neither," said Harriet.

The barkeep set the bottle back regretfully.

"I don't blame you folks," he said, giving them the drinks he'd made. "I took a nip of it myself. Just to test

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it out, you see, because I'm no drinking man.

"Not," he added, quickly and parenthetically, "that I have anything against it."

"Of course not," Harriet sympathized.

"It was funny tasting stuff," he said. "Not bad, you know. Not good, either. Had a musty tang. You might get to like it if you had a drink or two."

He stood in silence for a moment, with his hands planted solidly on the bar.

"You know what I been thinking?" he demanded.

"Not the least," said Harriet.

"I been wondering all this afternoon if that factor down at the Trading Post concocted that stuff up himself. Just as a sort of stinking joke, you see."

"Oh, he wouldn't dare," Harriet murmured.

"Well, I imagine you are right, miss. But all of them factors are funny sorts of jerks. Folks don't have much to do with them—socially, at least—but even so they manage to know more of what is going on than anyone in town. They must be listening all the time, for they have all the latest gossip.

"And," said the barkeep, laying emphasis upon this horrid crime and this social failing, "they don't never tell you nothing."

"Ain't it a fact," Harriet agreed, enthusiastically.

The barkeep subsided into brooding silence.

Blaine took a wild shot in the dark. "Lots of folks in town," he said. "Big doings?"

The barkeeper settled down into solid conversational stance and his voice dropped to a confidential level.

"You mean you ain't heard about it?"

"No. Just got in town a couple of hours ago."

"Well, mister, you won't believe this—but we got a star machine."

"A what?"

"A star machine. It's one of them contraptions that parries use to travel to the stars."

"Never heard of them."

"No reason that you should. The only place they're legal is in Fishhook."

"You mean this one is illegal?"

"Couldn't be no more illegal. The State police, they've got it down in the old highway shed. You know, the one on the west edge of town. Maybe you drove by it coming in tonight."

"I don't remember it."

"Well, anyhow, it's there. And then, on top of that, who should show up but Lambert Finn."

"You don't mean *the* Lambert Finn?"

"No one else. He's up there, in the hotel right now. He's going to have a big mass meeting out by the highway shed tomorrow. I hear the police have agreed to haul out the star machine so he can preach about it, with it standing there, right out in plain sight of all the people. I tell you, mister, that will be something worth your while to hear. He'll spout more

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brimstone than you ever heard before. He'll lay it on them parries. He'll take the hide clean off them. They won't dare to show their faces."

"Not many of them around, most likely, in a town like this."

"Well," the bartender said, drawing out the word, "not many in the town itself. But there's a place just a ways from here, down by the river. A place called Hamilton. It's all parry. It's a new town the parries built. Parries from all over. There's a name for a place like that—I should know the name, but I can't remember it. Like the place they used to keep the Jews in Europe."

"Ghetto."

The bartender smote the bar with a disgusted hand. "Now, why couldn't I think of that? Yes, mister, that's the word. Ghetto. Except in the old days it was in the poor part of a city, and now it's out in the country, in the

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poor part of the country. That land down by the river don't amount to shucks. No place to build a town. But them parries like it down there. Long as they don't bother no one, no one bothers them. Long as they stay in line, we leave them alone. And we know where they are, and they know we know. Any time things start going wrong, we know right where to look."

He glanced at the clock. "If you folks want me to start another round, you'll have time to gulp it down."

"No, thanks," said Blaine. He laid two bills on the bar. "Let it ride," he said.

"Why, thank you, sir. I thank you very much."

As they slid off the stools, he said: "If I were you, I'd get under cover as soon as possible. The cops will be down on top of you if they catch you out."

"We will," said Harriet. "And thanks for the conversation."

"Pleasure," said the barkeep. "Pleasure any time."

Outside the bar, Blaine held the car door for Harriet, then walked around it to get in on the other side.

"The highway shed?" he asked.

"Shep, what would you do there? We'd just get into trouble."

"I'll figure out a way. We simply can't leave that machine there for Finn to preach a sermon over."

"So I suppose you figure you'll just haul it off."

"No, I guess not. It's too big and clumsy. But there has to be a way. We have to put a crimp in Finn. Somehow, we've got to manage."

"They'll have a guard."

"I don't think so, Harriet. Locked and bolted, but no guard. There isn't anyone who would stand on guard. This town is plenty scared."

"You're just like Godfrey," she said. "Both of you go around sticking out your necks."

"You thought a lot of Godfrey."

"Yes, a lot," she said.

He started up the engine and swung the car out into the street.

The old highway shed was black and silent and there was nothing to indicate there was anyone around. They rode past it twice to look it over, moving slowly, and it was the same each time—just the big shed standing there, a relic of the days when there were highways to maintain, when there was need of road machinery to keep their surfaces in shape.

Blaine pulled the car off the road and threaded it easily through a willow thicket, set it down and turned off the lights.

Silence closed down on them; the darkness pulsed with quietness.

"Harriet," said Blaine.

"Yes, Shep."

"You stay here. Don't move. I am going up there."

"You won't be long. There's nothing you can do."

"I won't be long," he said. "Have we got a flashlight?"

"There's one in the glove compartment."

He heard her fumbling in the dark.

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The catch on the door of the compartment clicked and the tiny light inside came on. The flashlight lay amid a clutter of road maps, of sun glasses, of other odds and ends.

She handed it to him. He snapped it on to test it and it worked. He shut it off again and got out of the car.

"Sit tight," he told her.

"And you," she warned, "be careful."

XXIII

The shed was larger than it had appeared to be when seen from the highway. It was surrounded by a high, rank growth of dead, dried weeds that rustled with stealthy sound in the slightest movement of the air. It was built of the corrugated metal sheets which had been much in use for buildings of this sort before the introduction some three-score years before of the putty-plastic from Aldebaran VII. Occasional windows, begrimed with dirt and ancient spider webs broke the smooth expanse of metal. Two great upward-folding doors filled almost the entire front exposure.

To the east lay the dark outline of the town, silhouetted against the faint flush in the sky which told of a moon about to rise.

Cautiously, Blaine made a circuit of the building, looking for a way that might allow him to get in. He found nothing that was easy. The two folding doors were locked. There were a few sheets of metal that had loosened at the bottom, but the material was too heavy to allow one to bend it upward and thus create a rat hole for a man to sneak inside.

There was, he realized, only one way to get in.

He went to the corner of the building nearest to the road and stood listening. Except for the harsh whispering of the weeds there was nothing to be heard. The highway was deserted and, he knew, most likely would remain so. There was no sign of light—no lamp, no glitter through a distant window. It was as if he and the shed stood in a world where there was no life at all.

He stared for a time at the willow thicket by the road, but there was no glint, no shine, nothing to indicate that a car was hidden there.

He stepped quickly from the corner and moved along the wall of metal until he came to a window. He took off his tattered jacket and wrapped it about his fist and forearm.

Then he struck a blow and the window shattered. He struck other blows to remove the glass that was still hanging in the frame. Carefully he picked out the remaining splinters that would slash a man trying to crawl in.

Then he went back to the corner and stood there for a moment. The night still was motionless and silent.

Back at the window, he crawled into the shed, let himself down carefully, felt the floor beneath his feet. He took the flashlight from his pocket and turned it on. He swept a light around the empty shed.

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And there, close to the door, was the battered, broken truck which had found its rest at last, and the gleaming star machine that it had carried across the width of half a continent. But otherwise than the truck and the star machine the shed stood empty, a sounding board that picked up and magnified any sound that might be made.

Walking as softly as he could, Blaine moved across the floor and stood beside the machine, shining his light upon it. And it was something that he knew well, it was a machine that back in Fishhook he had known intimately. There was a strange beauty in it, he told himself as he stood and looked at it, almost as if one could see, reflected in its surface, the far reaches of the universe to which it could help a man to go.

But it was old—one of the older models that Fishhook had replaced some ten years or so ago and there was little doubt, he knew that it had somehow come from Fishhook. There must be many of the older models such as this stacked away in some almost forgotten storehouse, stored there more than likely because it was easier to store them than it was to break them up. For something such as this must either be stored under lock and key or it must be broken up, for they could not be simply thrown away. In this machine lay the key to Fishhook's monopoly and there must be no possibility that one of them should fall into any other hands.

But one of them had fallen into other hands and here it lay tonight, mute evidence of one of the smartest, slickest bits of intrigue to which Fishhook, intrigue-ridden as it was, had ever been unwitting party.

Blaine tried to imagine how Stone had ever managed, and thinking of it, his admiration for the man rose a notch or two. It had taken money, surely, and it had taken trusted agents and it had required a plan of operation which would countenance no slip-up.

He wondered vaguely, as he stood there, how much Harriet might have had to do with it. Certainly, he told himself, she had had no qualms, in the process of smuggling him from Fishhook, of getting out herself. She was, he thought, just the kind of woman who could engineer a thing like this—self-possessed and calm and with a sure and certain knowledge of all those inner workings which made Fishhook keep on ticking. And with a mind that operated with the fine precision of a good Swiss watch.

Stone had had great hopes of this machine and now the hopes were gone. Now Stone was dead and the star machine lay here in this abandoned shed, a showpiece bit of evidence for a man so filled with hate that he would destroy paranormal kinetics, root and branch and leaf.

And Finn could make much of this machine, for while it might be called machine, it was not the kind of machine to which the human mind for centuries had become accustomed. It had no moving parts and it had no function that was discernible. It was designed to work upon nothing more

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material than the human mind and senses. It worked with symbolism rather than with energy—and yet it worked.

If the hope were gone, thought Blaine, then the machine could not remain. If he owed Stone nothing else, he owed him that much at least. He owed him, he reminded himself, some slight repayment for that night he'd phoned.

There was a way—there was a way, he knew, if out of the frothing sea of alien knowledge which surged inside of him he could only pull it forth.

He sought for it and found it and in the finding of it he touched on other knowledge, all neatly docketed and primly pigeonholed, as if some filing clerk had been busily at work within his cluttered mind.

He stood weak and trembling at knowing of this pigeonholing, for he had not known, had had no inkling that it was going on. But it was the human way, he told himself—it was an evidence of human rebellion against the piecemeal disorderliness of the mass of data which had been dumped into his mind by the creature on that distant planet.

The creature still was with him, or the essence of the creature, and he hunted for it among the pigeonholes, but it was not there; there was no sign of it as such, but there was something else; there was something very wrong.

Startled, he went scrambling on the trail of wrongness and he caught and held it, muzzling it with a nose of horror—for it was simply this: His mind no longer was an entirely human mind. And in the edge of terror was the terrible wonder of how he still retained enough pure humanity to know this was the case.

He put out his hand in a blind and groping way and caught a corner of the star machine and held tightly onto it.

It all spelled out, he suspected, to the simple fact that he remained human, or mostly human, on the surface, while beneath that surface was a fusion of two individuals, of the knowledge and perhaps the ethics and the motives of two different forms of life. And that made sense when one thought of it, for the Pinkness had not changed, it had stayed its sprawling, slobby self; there had been no trace of human in it, although inside of it was a certain portion of humanity and God knew what else besides.

He released the grip he had upon the star machine and ran his hand against the glasslike smoothness of its metal structure.

There was a way—if he could only do it. He had the knowledge now, but did he have the technique?

Time, the Pinkness had told him—time is the simplest thing there is. But still, Blaine told himself, not as easily handled as the creature had made out.

He stood there thinking and the thing that he must do became very clear indeed.

The past was a worthless path to

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follow, for the machine was in the past already. It had left a long and nebulous trail clear across the past.

But the future was a different matter. If it could be moved into the future, this present moment and all succeeding present moments would then become its past and all that would remain would be the ghostly track of it—and a laughter and a mocking and a thing of magic which would make no proper subject for a rabble-rousing sermon by a man named Lambert Finn.

And more than that, thought Blaine, it would more than likely, scare the hell right out of him.

He reached out with his mind to encircle the machine and it was no use. His mind would open up and reach, but there was a lack of stretch in it and he could not take in all of the machine. So he rested and then he tried again.

There was a strangeness and an alienness in the shed he had not noticed and there was an unknown menace in the scraping of the weeds outside the broken window and the air held a sharpness and a tang that raised bristles on his neck. It was most confusing, for suddenly it seemed that he had lost all rapport with this world in which he found himself and that nothing, not the earth he stood on nor the air he breathed or even the body that he wore was anything he'd ever known before and there was a horror in this lack of familiarity, in this shift from the known which he no longer could remember into this unknown for which he had no focal points. But it would be all right, it all would come aright if he could move this strange artifact he held within his mind, for it had been for this purpose that he had been called forth from the darkness and the warmness and the snug security and if he got the job done he could go back again, back to his memories of other days and his slow assimilation of new data and the miser-satisfaction of counting up the new facts, one by one, as he piled them in neat stacks.

The artifact, for all its strangeness, was an easy thing to handle. Its roots did not run back too far and the coordinates were falling very satisfactorily into place and he almost had it made. But he must not hurry despite his screaming need to hurry; he must somewhere snare some patience. So he waited for the coordinates to go clicking into place and he made exact and unhurried measurement of the temporal strain and he gave the thing a twitch at just the right degree of twist and it was exactly where he had wanted it.

Then he dived back home again, back into the dark and warmness and Blaine stood shorn of all but his human self in a place of foggy nothingness.

There was nothing there—nothing but himself and the star machine. He reached out his hand and touched the star machine and it was very solid. It was, so far as he could see, the only solid thing there was.

For the fog itself, if fog were what

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it was, had an unreal quality, as if it were striving to camouflage its very fact of being.

Blaine stood quietly, afraid to move—afraid that any movement might plunge him into some pit of black foreverness.

For this, he realized, was the future. It was a place without a single feature of the space-time matrix that he knew. It was a place where nothing yet had happened—an utter emptiness. There was neither light nor dark; there was nothing here but emptiness. There had never been anything in this place, nor was anything ever intended to occupy this place—until this very moment when he and his machine had been thrust upon it, intruders who had overstepped their time.

He let his breath out slowly and breathed in again—and there was nothing to breathe in!

Blackness rushed in upon him and the throbbing of his heart beat loud within his head and he reached out desperately to grab at something—at anything—in this place where there was not a thing to grab.

Even as he did, the alienness came back, a startled, frightened alienness, and a hodge-podge of queer symbolic figures, which even in his agony of mind, he took to be some outre mathematics, went flooding through his brain.

There was air again to breathe and there was solid floor beneath his feet and he smelled the mustiness of the inside of the deserted highway shed.

He was back home again and so was the alienness, for it was gone from him. Back, he told himself, to the darkness and the warmth inside his very brain.

He stood erect and mentally checked himself and he was all right. He opened his eyes slowly, for they somehow had been closed, and there was only darkness until he remembered the flashlight still clutched in his hand. And yet not as dark as it had been before. Now light from a newly-risen moon poured through the broken window.

He lifted the flashlight and shoved the contact button and the light sprang out and the machine was there before him, but strange and unsubstantial—the ghost of a machine, the trail that it had left behind it when it had moved into the future.

He lifted his free arm and used his jacket sleeve to wipe his forehead dry. For it was over now. He had done what he had come to do. He'd struck the blow for Stone; he'd stopped Finn in his tracks.

There was here no object lesson; there was no longer any text for Finn to preach upon. There was, instead, a mocking jeer from the very magic that Finn had fought for years.

Behind him he sensed a movement and he swung around so hurriedly that his fingers loosened on the flashlight and it fell upon the floor and rolled.

Out of the darkness a voice spoke.

"Shep," it said, with full heartiness, "that was very neatly done."

Blaine froze and hopelessness flooded in.

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For this was the end, he knew. He had come as far as he was going to. He had finally run his race.

He knew that hearty voice. He never could forget it.

The man standing in the darkness of the shed was his old friend, Kirby Rand!

XXIV

Rand was a blacker blob in the darkness as he stepped forward and picked the flashlight off the floor. He pivoted to turn the light full upon the star machine and in the flood of brightness tiny little dust motes could be seen dancing in the heart of the machine.

"Yes," said Rand, "very neatly done. I don't know how you did it and I don't know why you did it, but you most certainly have taken care of it."

He turned the flashlight off and for a moment they stood silent in the darkness, relieved by the streaks of moonlight that came through the windows.

Then Rand said: "I suppose you know that Fishhook owes you a vote of thanks for this."

"Come off of it," Blaine told him, roughly. "You know very well it was not done for Fishhook."

"Nevertheless," said Kirby, "it happens that in this particular area our interests coincide. We could not let this machine stay lost. We could not allow it to remain in improper hands. You understand, of course."

"Perfectly," said Blaine.

Rand sighed. "I had expected

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trouble and if there is anything Fishhook doesn't want, it's trouble. Particularly when that trouble is out in the hinterlands."

"There's not been any trouble," Blaine told him, "that needs to worry Fishhook."

"I am glad to hear it. And you, Shep? How are you getting on?"

"Not too badly, Kirby."

"That is nice," said Kirby. "That is very nice. It makes me feel so good. And now, I would imagine, we should get out of here."

He led the way across the floor back to the broken window and stood aside.

"You first," he said to Blaine, "and I'll be right behind you. I would ask, as one friend to another, that you not try to run away."

"No need to fear," Blaine told him dryly, then climbed quickly through the window.

He could run, of course, he told himself, but that would be extremely foolish, for there was no doubt Rand would have a gun and he would be quite efficient with it, even in the moonlight. And more than that, if there were any shooting, Harriet might come running to be of what help she could and if she got involved in this, then he'd be truly friendless. Otherwise, he told himself, almost prayerfully, Harriet would stay hidden in the willow clump. She would see what hppened and in just a little while she'd have an angle figured out.

Harriet was, he told himself, the only hope he had.

He dropped out of the window and stood to one side for Rand to clamber through.

Rand hit the ground and turned toward him, just a bit too quickly, too much like a hunter, then he relaxed and chuckled.

"It was a slick trick, Shep," he said. "Efficiently engineered. Some day you'll have to tell me exactly how you did it. To steal a star machine is not an easy thing."

Blaine gulped down his astonishment and hoped the moonlight hid the look he knew must be upon his face.

Rand reached out a hand and took him companionably by the elbow.

"The car's down here," he said. "Right down by the road."

They walked together across the patch of rustling weeds and the land lay different now, no longer dark and fearsome, but a place of painted magic stretched out in the moonlight. To their right lay the town, a mass of darkened houses that looked more like mounds than houses, with the faint tracery of nude trees standing up like ragged paint brushes reared against the eastern sky. To the west and north lay the silver prairie land, flat and featureless and made immense by its very lack of features.

And just down the road was the clump of willows.

Blaine shot a quick glance at the clump and there were only willows. There was no glint of moonlight bouncing off of metal. He walked a pace or two, then took another look

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and this time, he knew, there could be no mistake. There was no car in that clump of willows. Harriet was gone.

Good girl, he thought. She had a lot of sense. She'd probably gotten out of there as soon as Rand showed up. She'd figure, more than likely, that the one way she'd be most valuable would be to make a getaway against another day.

But he was disturbed even as he thought about it. For while that would be the smart course, it would not be Harriet's course. She would be more likely to stick around to help; it would be even like her to come barging blindly in to see what she could do.

"I don't suppose," said Rand, "that you have a place to stay."

"No," said Blaine, "I haven't."

"Bad town," Rand told him. "They take this witchcraft-werewolf business seriously indeed. Cops stopped me twice. Warned me under cover. Told me very sternly it was for my own protection."

"They're all wrought up," said Blaine. "Lambert Finn is here."

"Oh, yes," Rand said carelessly. "An old friend of ours."

"Not of mine. I never met the man."

"A charming soul," said Rand. "A very charming one."

Blaine said: "I know very little of him. Just what I have heard."

Rand grunted.

"I would suggest," he said, "that you spend the night at the Post. The factor will be able to find some place to bed you down. I wouldn't be surprised if he could dig up a bottle, too. I suddenly feel the need of a monstrous slug of booze."

"I could stand one myself," Blaine told him.

For there was no sense of fighting now, no more sense than running. You went along with them and waited for your chance. They tried to throw you off your balance and you tried to throw them off of theirs. And all along you knew, the both of you might know, that it was a most polite, but very deadly game.

Although he wondered why he bothered. After the last few weeks, he told himself, Fishhook would seem an engaging place. Even if they sent him to the detention resort in Baja, California, it would be better than the prospect he faced in this Missouri river town.

They reached the car that sat beside the road and Blaine waited for Rand to get underneath the wheel, then crawled in himself.

Rand started the engine, but did not switch on the lights. He pulled the machine out into the roadway and went drifting down it.

"The police can't really do much more," he said, "than run you under cover, but there seems to me no point in getting tangled up with them if you can avoid it."

"None at all," said Blaine.

Rand avoided the center of the town, went sneaking down the side streets. Finally he cut back and went sliding up an alley, swung into a parking lot and stopped.

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"Here we are," he said. "Let's go get that drink."

The back door opened to his knock and they walked into the back room of the Trading Post. Most of the place, Blaine saw, was used as storage space, but one corner of it served as a living room. There was a bed and stove and table. There was a massive stone fireplace with a wood fire burning in it and comfortable chairs ranged in front of it.

Up near the door that went into the front part of the store stood a massive boxlike structure and Blaine, although he'd never seen one, recognized it immediately as a transo—the matter transference machine which made the vast network of Trading Posts stretched around the globe an economic possibility. Through that box could come, with a moment's notice, any of the merchandise for which any of the thousands of retail outlets might find itself in need.

This was the machine that Dalton had talked about that night at Charline's party—the machine which he had said could wipe out the world's transportation interests if Fishhook ever chose to put it in public use.

Rand waved a hand at one of the chairs. "Make yourself comfortable," he said to Blaine. "Grant will rustle up a bottle. You have one, don't you, Grant?"

The factor grinned. "You know I do. How else could I live in a place like this?"

Blaine sat down in one of the chairs before the fire and Rand took one facing him. He rubbed his hands together.

"We parted over a bottle," he reminded Blaine. "I'd say it was only fitting to renew our acquaintance over one."

Blaine felt a tenseness growing in him, the sense of being trapped, but he grinned at Rand.

"You know the margin that I had that night?" he asked. "Eight lousy little minutes. That was all I had."

"You miscalculated, Shep. You had exactly twelve. The boys were a little slow in getting out the tape."

"And Freddy. Who'd ever thought that Freddy worked for you."

"You'd be surprised," Rand told him blandly, "at some of the people I have working for me."

They sat easily before the blazing fire, measuring one another.

Finally Rand said: "Why don't you tell me, Shep. I haven't all the answers. I can't get it figured out. You ran into that situation out beyond the Pleiades and you got it buttoned up—"

"Buttoned up?"

"Sure. Buttoned up. Exclusive. We knew that you had something and we sent some others out there and your creature sits and stares at them and that is all it does. They try to talk with it and it's absolutely dumb. It pretends it doesn't hear them. It makes out not to understand—"

"Brotherhood," said Blaine. "We went through the rites. You wouldn't understand."

"I think I do," said Rand. "How alien are you, Shep?"

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"Try me out and see."

Rand shuddered. "No, thanks. You see, I've followed up your trail. It began with Freddy and got weirder as it went along."

"And what do you intend to do about it?"

"Damned if I know," said Rand.

The factor brought a bottle and two glasses.

"None for yourself?" asked Rand.

Grant shook his head. "I've got some stock arranging up front. If you don't mind—"

"Of course not," Rand told him. "Go on with your work. One thing—"

"What, sir?"

"I wonder if Mr. Blaine could spend the night here."

"Certainly. Although it's pretty crude."

"I don't mind," said Blaine.

"I'd offer you my bed, sir, but frankly it's no bargain. Once you get used to it, you can live with it, but to start out with—"

"I wouldn't think of taking it."

"I could get some blankets and you could bed down on the floor. Believe me, it would be better than the bed."

"Anything," said Blaine. "I'll be thankful for anything at all."

Rand picked up the bottle and uncorked it.

"I'll bring out the blankets in a little while," the factor told them.

"Thank you, Grant," said Rand.

The man left. The door that led into the front part of the store sighed softly shut behind him.

Rand poured out the liquor.

"Actually," he said, "unless you want to, you don't have to stay here."

"No?"

"I'm going back to Fishhook. Through the transo. You could come along."

Blaine was silent. Rand handed him the drink.

"Well, what do you say?" he asked.

Blaine laughed. "You're making it too easy."

"Perhaps I am," said Rand.

He took a drink and settled back into the chair.

"The alien part I can understand," he said. "That is an occupational hazard faced by every traveler. But how does the star machine tie up? You were in cahoots with Stone, of course."

"You know that Stone is dead."

"No, I hadn't heard that." But he was unconvincing.

And suddenly, from the quality of Rand's voice, from some intuition, Blaine knew that Rand did not care that Stone was dead or that Finn might be in town. It was all one with him. Or it might be even more than that. It might be that Rand was quite satisfied to know that Stone was dead, that he might approve in good part with what Finn was doing. For Fishhook's monopoly rested upon a non-parry world, upon all the millions of people in the world being forced to look to Fishhook for the commerce with the stars. And so Fishhook and Rand, Blaine realized with something of a shock, might even be quite willing to see Finn's crusade go rolling

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ahead to its inevitable conclusion.

And if that were true, could it have been Fishhook instead of Finn which had struck the lethal blow at Stone?

He recoiled at the thought, but it clung inside his brain—for the situation was revealing itself as more than just a simple struggle between Finn and Stone.

It might be best, he told himself, to disclaim immediately any connection whatsoever with the star machine. Perhaps he should have made the disclaimer back there at the shed when Rand first had mentioned it. But if he told the truth, if he told Rand now that he had not known of the star machine until just hours ago, he conceivably might lose a bargaining point of uncertain value. And even if he told him, Rand more than likely would refuse to believe him, for he, after all, had helped Riley nurse the truck which had carried it almost all the way from Mexico.

"It took you plenty long," said Blaine, "to catch up with me. Are you, maybe, losing your grip? Or were you just amused?"

Rand frowned. "We almost lost you, Shep. We had you pegged in that town where they were about to hang you."

"You were even there that night?"

"Well, not personally," said Rand, "but I had some men there."

"And you were about to let me hang."

"Well, I tell you honestly, we were of divided mind. But you took the decision right out of our hands."

"But if not . . ."

"I think most likely we would have let you hang. There was the possibility, of course, that if we grabbed you off you could have led us to the star machine. But we were fairly confident, at that point, we could spot it for ourselves."

He crashed his glass down on the table. "Of all the crazy things!" he yelled. "Hauling a machine like that in the rattletrap you used. What ever—"

"Simple," said Blaine, answering for Stone. "And you know the answer just as well as I do. No one would be that crazy. If you had stolen something very valuable, you'd get it as far away and as fast as possible—"

"Anybody would," said Rand.

He saw Blaine grinning at him and grinned back.

"Shep," he said, "come clean with me. We were good friends once. Maybe, for all I know, we're still the best of friends."

"What do you want to know?"

"You took that machine some place just now."

Blaine nodded.

"And you can get it back again."

"No," Blaine told him. "I'm pretty sure I can't. I was . . . well, just sort of playing a joke on someone."

"On me, perhaps?"

"Not you. On Lambert Finn."

"You don't like Finn, do you."

"I've never met the man."

Rand picked up the bottle and filled the glasses once again. He drank half of the liquor in his glass and then stood up.

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"I have to leave," he said, looking at his watch. "One of Charline's parties. Wouldn't miss it for the world. You're sure that you won't come. Charline would be glad to have you."

"No, thanks. I'll stay right here. Give Freddy my regards."

"Freddy," said Rand, "isn't with us any more."

Blaine got up and walked with Rand over to the transo. Rand opened the door. The inside of it looked something like a freight elevator.

"Too bad," said Rand, "we can't use these out in space. It would free a lot of manpower."

"I suppose," Blaine said, "that you are working on it."

"Oh, certainly," Rand told him. "It's just a matter of refining the controls."

He held out his hand. "So long, Shep. I'll be seeing you."

"Good-by, Kirby," said Blaine. "Not if I can help it."

Rand grinned and stepped into the machine and closed the door. There was no flashing light—nothing to show the machine had operated.

And yet by now, Blaine knew, Kirby Rand was back in Fishhook.

He turned from the transo and started back for the chair beside the fire.

The door from the store up front swung open and Grant came into the room. He had a striped robe folded on his arm.

"I've got just the thing," he announced. "I had forgotten that I had it."

He lifted the robe off his arm and shook it out.

"Isn't it a beauty?" he demanded.

It was all of that. It was a fur of some sort and there was something about the fur itself that made it glitter in the firelight, as if someone had dusted it with tiny diamond fragments. It was a golden yellow with black stripes that ran diagonally and it had the look of silk rather than of fur.

"It's been around for years," said Grant. "There was this man camping on the river and he came in and ordered it. Fishhook had a bit of trouble locating one immediately, but they finally delivered. As you know, sir, they always do."

"Yes, I know," said Baline.

"Then the man never did show up. But the fur was so beautiful I could never send it back. I kept it on inventory, pretending that some day I'd have a chance to sell it. I never will, of course. It costs too much money for a one-horse town like this."

"What is it?"

"The warmest, lightest, softest fur in the universe. Campers carry it. Better than a sleeping bag."

"I couldn't 'use it," protested Blaine. "Just an ordinary blanket—"

"But you must," Grant told him. "As a favor to me, sir. My accommodations are so poor, I feel deeply shamed. But if I knew you were sleeping in a luxury item—"

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Blaine laughed and held out his hand.

"All right," he said. "And thanks."

Grant gave him the robe and Blaine weighed it in his hand, not quite believing it could be so light.

"I've still got a little work," the factor told him. "If you don't mind, I'll go back and finish it. You can bed down anywhere."

"Go ahead," said Blaine. "I'll finish up my drink and then turn in. Would you have one with me?"

"Later on," the factor said. "I always have a snort before I go to bed."

"I'll leave the bottle for you."

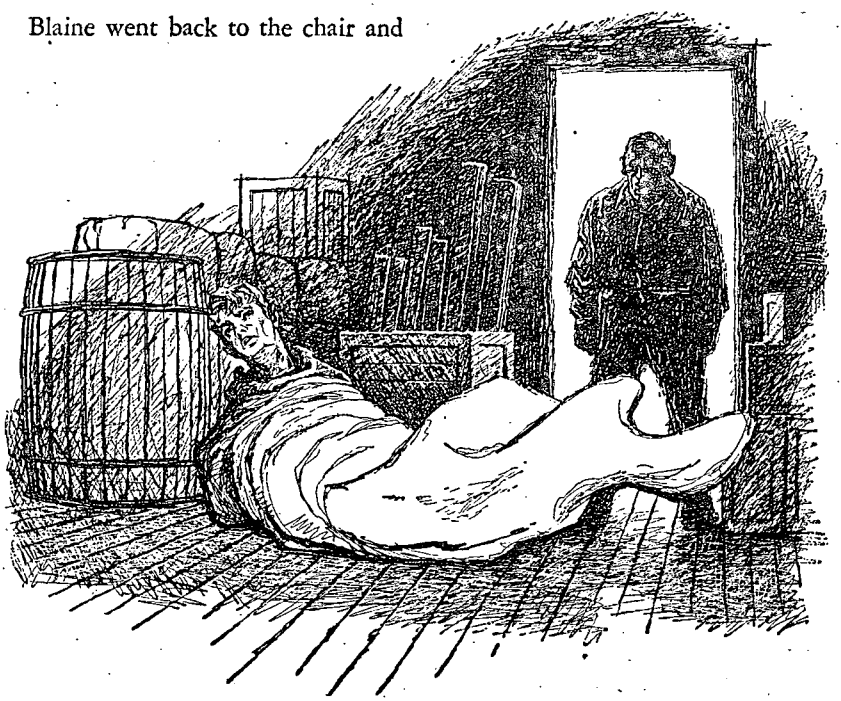
"Good night, sir," the factor said, "See you in the morning."

Blaine went back to the chair and sat down in it, with the robe lying in his lap. He stroked it with his hand and it was so soft and warm that it gave the illusion of being still alive.

He picked up the glass and worked leisurely on the liquor and puzzled over Rand.

The man was probably the most dangerous man on earth, despite what Stone had said of Finn—the most dangerous personally, a silky, bulldog danger, a bloodhound of a man who carried out the policies of Fishhook. No enemy of Fishhook was ever safe from Rand.

And yet he had not insisted that Blaine go back with him. He had



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been almost casual in his invitation, as if it had been no more than a minor social matter, and he had displayed no resentment nor no apparent disappointment upon Blaine's refusal. Nor had he made a move toward force, although that, Blaine told himself, was more than likely due to his lack of knowledge with what he might be dealing. Along the trail, apparently; he had happened on enough to put him on his guard, to know that the man he followed had some secret abilities entirely new to Fishhook.

So he'd move slowly and cautiously, and he'd cover up with a nonchalence that fooled no one at all. For Rand, Blaine knew, was a man who would not give up.

He had something up his sleeve, Blaine knew—something so well hidden that no corner of it showed.

There was a trap all set and baited, Blaine knew. There was no doubt of it.

He sat quietly in his chair and finished off the liquor in his glass.

Perhaps it was foolish of him to remain here in the Post. Perhaps it would be better if he just got up and left. And yet that might be the very thing Rand would have figured him to do. Perhaps the trap was outside the door and not in the Post at all. It could be very likely that this room was the one safe place in all the world for him to spend the night.

He needed shelter, but he did not need the sleep. Perhaps the thing to do was stay here, but not to go to sleep. He could lie on the floor, with the robe wrapped tight about him and pretend to sleep, but keeping watch on Grant. For if there were a trap in this room, Grant was the one to spring it.

He put his glass back on the table beside the one that Rand had used, still a quarter full of liquor. He moved the bottle over to make a set piece out of the bottle and the glasses, the three of them together. He bundled the robe underneath his arm and walked over to the fire. He picked up the poker and pushed the burning logs together to revive their dying flame.

He'd bed down here, he decided, just before the fire, so that the light of it would be back of him, out into the room.

He spread the robe carefully on the floor, took off his jacket and folded it for a pillow. He kicked off his shoes and lay down on the robe. It was soft and yielding, almost like a mattress despite its lack of thickness. He pulled it over him and it fell together smoothly, like a sleeping bag. There was a comfort in it that he had not felt since those days when he had been a boy and had snuggled down into his bed, underneath the blankets, in his room on the coldest winter nights.

He lay there, staring out into the darkness of the storeroom beyond the living quarters. He could see the faint outlines of barrels and bales and boxes. And lying there in the silence, unbroken except by the occasional crackle of the fire behind

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him, he became aware of the faint scent which perfumed the room—the indescribable odor of things alien to the Earth. Not an offensive scent, nor exotic, not in any way startling at all, but a smell such as was not upon the Earth, the compounded smell of spice and fabric, of wood and food, of all the many other things which were gathered from the stars. And only a small stock of it here, he knew, only the staples considered necessary for one of the smaller Posts. But a Post with the entire resources of the massive Fishhook warehouses available within a moment's notice, thanks to the transo standing in its corner.

And this was only a small part of that traffic with the stars—this was only the part that you could put your hands upon, the one small part of it that one could buy or own.

There was also that greater unseen, almost unrealized part of the Fishhook operation—the securing and collecting—and the hoarding, as well—of ideas and of knowledge snared from the depths of space. In the universities of Fishhook scholars from all parts of the world sifted through this knowledge and sought to correlate and study it, and in some cases to apply it, and in the years to come it would be this knowledge and these ideas which would shape the course and the eventual destiny of all humanity.

But there was more to it than that. There was, first of all, the revealed knowledge and ideas, and secondly, the secret files of learning and the facts kept under lock and key or at the very best reviewed by most confidential boards and panels.

For Fishhook could not, in the name of humanity as well as its own self-interest, release everything it found.

There were certain new approaches, philosophies, ideas, call them what you might, which, while valid in their own particular social structure, were not human in any sense whatever, nor by any stretch of imagination adaptable to the human race and the human sense of value. And there were those others which, while applicable, must be studied closely for possible side-effects on human thinking and the human viewpoint before they could be introduced, no matter how obliquely, into the human cultural pattern. And there still were others, wholly applicable, which could not be released for perhaps another hundred years—ideas so far ahead, so revolutionary that they must wait for the human race to catch up with them.

And in this must have lain something of what Stone had been thinking when he had started his crusade to break the monopoly of Fishhook, to bring to the paranormal people of the world outside of Fishhook some measure of the heritage which was rightly theirs by the very virtue of their abilities.

In that Blaine could find agreement with him, for it was not right, he told himself, that all the results of PK should be forever funneled through the tight controls of a mo-

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nopoly that in the course of a century of existence had somehow lost the fervor of its belief and its strength of human purpose in a welter of commercialism such as no human being, nor any age, had ever known before.

By every rule of decency, parakinetics belonged to Man himself, not to a band of men, not to a corporation, not even to its discovers nor the inheritors of its discoverers—for the discovery of it, or the realization of it, no matter by what term one might choose to call it, could not in any case be the work of one man or one group of men alone. It was something that must lay within the public domain. It was a truly natural phenomenon—more peculiarly a natural resource than wind or wood or water.

Blaine lay quietly, thinking, with the alien scent within his nostrils and his mind, with the snapping of the fire behind him, with the warmth and comfort of the robe around him, and he was at peace with the silence and the snugness. Except, he told himself, he had no right to be at peace.

There was Godfrey Stone, dead with his head smashed in; there was Anita Andrews and her band of witches who had come flying to the rescue on simple faith alone; there was Lambert Finn, all set to preach tomorrow, not dreaming that his lecture prop, his horrible example, was now beyond his touch; and there was Harriet Quimby—and where was Harriet this night?

Back at the Plainsman motel, perhaps, although when he thought about it, it seemed quite unlikely. Or in jail, hauled there by the overzealous police of Belmont, held there, as they would tell her, for her own protection. Or, perhaps, many miles from here, her car roaring through the night, bound upon some mission or maybe simply fleeing. Although Harriet was a woman, he reminded himself, it would not be easy to stampede into flight.

And there was as well another factor, perhaps the overriding factor, of Fishhook, the huge monolithic structure that dominated everything on Earth.

Behind him the logs, burning to the point of collapse, fell apart in a fiery crash. He turned to look at them—.

Or tried to turn.

But he could not turn.

There was something wrong.

Somehow or other, the robe had become wrapped too tightly.

He pushed his hands out from his side to pull it loose, but he could not push his hands and it would not loosen.

Rather, it tightened. He could feel it tighten.

Terrified, he tried to thrust his body upward trying to sit up.

He could not do it. It was impossible.

The robe held him in a gentle, but unyielding grasp.

He was as effectively trussed as if he'd been tied with rope. The robe, without his knowing it, had become a

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strait-jacket that held him close and snug.

He lay quietly on his back and while a chill went through his body, sweat poured down his forehead and ran into his eyes.

For there had been a trap.

He had been afraid of one.

He had been on guard against it.

And yet, of his own free will and unsuspecting, he had wrapped the trap about him.

XXV

Rand had said "I'll be seeing you," when he had shaken hands and stepped into the transo. He had sounded cheerful and very confident. And he'd had a right to sound that way, Blaine thought ruefully, for he'd had it all planned out. He had known exactly what would happen and he'd planned it letter perfect—the one way to apprehend a man you happened to be just a little scared of, not knowing exactly what to expect from him.

Blaine lay on the floor, stretched out, held stretched-out and motionless by the encircling robe—except, of course, it was not a robe. It was, more than likely, one of those weird discoveries which Fishhook, for purposes of its own, had found expedient to keep under very careful cover. Foreseeing, no doubt, that certain unique uses might be found for it.

Blaine searched his memory and there was nothing there—nothing that even hinted of a thing like this, some parasitic life, perhaps, which for time on end could lie quiet and easy, making like a robe, but which came to deadly life once it was exposed to something warm and living.

It had him now and within a little while it might start feeding on him, or whatever else it might plan to do with him. There was no use, he knew, to struggle, for at every movement of his body the thing would only close the tighter.

He searched his mind again for a clue to this thing and all at once he found a place—he could see a place—a murky, tumbled planet with tangled forestation and weird residents that flapped and crawled and shambled. It was a place of horror, seen only mistily through the fogs of memory, but the most startling thing about it was that he was fairly certain, even as he dredged it up, he had no such memory. He had never been there and he'd never talked to one who had, although it might have been something he'd picked up from dimensino—from some idle hour of many years before, buried deep within his mind and unsuspected until this very moment.

The picture grew the brighter and the clearer, as if somewhere in his brain someone might be screwing at a lens to get a better picture, and now he could see in remarkable and mind-chilling detail the sort of life that lived within the welter of chaotic jungle. It was horrendous and obscene and it crawled and crept and there was about it a studied cold ferociousness, the cruelty of the uncaring and unknowing, driven only

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by a primal hunger and a primal hate.

Blaine lay frozen by the pitlike horror of the place, for it was almost as if he actually were there, as if a part of him lay on this floor before the fireplace while the other half was standing, in all reality, within the loathesome jungle.

He seemed to hear a noise, or this other half of him seemed to hear a noise, and this other half of him looked upward into what might have been a tree, although it was too gnarled, too thorned and too obnoxious to be any proper tree, and looking up, he saw the robe, hanging from a branch, with the shattered diamond dust sparkling in its fur, about to drop upon him.

He screamed, or seemed to scream, and the planet and its denizens faded out, as if the hand within his brain had turned the viewing lens out of proper focus.

He was back, entire, in the land of fireplace and of storeroom, with the transo machine standing in its corner. The door that went into the store was opening and Grant was coming through.

Grant moved out into the room and eased the door behind him to its closed position. Then he swung around and stood silently, huge and stolid, staring at the man upon the floor.

"Mr. Blaine," he said, speaking softly. "Mr. Blaine, are you awake?"

Blaine did not answer.

"Your eyes are open, Mr. Blaine. Is there something wrong with you?"

"Not a thing," said Blaine. "I was just lying here and thinking."

"Good thoughts, Mr. Blaine?"

"Very good, indeed."

Grant moved forward slowly, catfooted, as if he might be stalking something. He reached the table and picked up the bottle. He put it to his mouth and let it gurgle.

He put the bottle down.

"Mr. Blaine, why don't you get up? We could sit around and talk and have a drink or two. I don't get to talk to people much. they come here and buy, of course, but they don't talk to me any more than they just have to."

"No, thanks," said Blaine. "I'm quite comfortable."

Grant moved from the table and sat down in one of the chairs before the fireplace.

"It was a shame," he said, "you didn't go back to Fishhook with Mr. Rand. Fishhook is an exciting place."

"You're quite right," Blaine told him, replying automatically, not paying much attention.

For now he knew—he knew where he'd got that memory, where he'd picked up the mental picture of that other planet. He had gotten it from the neat stacks of information he'd picked up from the Pinkness. He, himself, of course, had never visited the planet, but the Pinkness had.

And there was more to the memory than just the magic lantern picture of the place. There was, as well, a file of data about the planet and its life. But disorderly, not yet sorted out, and very hard to get at.

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Grant reached out a hand and tapped his fingers on the robe. It gave forth a sound like a muted drum.

Grant leaned back into his chair, smirking just a little.

"Well," he demanded, "how do you like it, Mr. Blaine?"

"I'll let you know," Blaine told him, "when I get my hands on you."

Grant got up from the chair and walked back to the table, following an exaggerated, mocking path around the stretched-out Blaine. He picked up the bottle and had another slug.

"You won't get your hands on me," he said, "because in just another minute I'm going to shove you into the transo over there and back you go to Fishhook."

He took another drink and set the bottle back.

"I don't know what you done," he said. "I don't know why they want you. But I got my orders."

He half lifted the bottle, then thought better of it. He shoved it back to the center of the table. He walked forward and stood towering over Blaine.

There was another picture, of another planet, and there was a thing that walked along what might have been a road. The thing was nothing such as Blaine had ever seen before. It looked something like a walking cactus, but it was not a cactus and there was every doubt that it was vegetable. But neither the creature nor the road were too significant. What was significant was that following at the creature's heels, gamboling awkwardly along the could-be-road, were a half dozen of the robes.

Hunting dogs, thought Blaine. The cactus was a hunter and these were his hunting dogs. Or he was a trapper and these things were his traps. Robes, domesticated from that other jungle planet, perhaps picked up by some space-going trader, tough enough to survive stellar radiation, and brought to this planet to be bartered for something else of value.

Perhaps, Blaine thought wildly, it was from this very planet that the robe now wrapped around him had been found and taken back to Fishhook.

There was something else pounding in his brain—some sort of phrase, a very alien phrase, perhaps a phrase from the cactus language. It was barbarous in its twisting of the tongue and it made no sense, but as Grant stooped with his hands outstretched to lift him, Blaine shouted out the phrase with all his strength.

And as he shouted, the robe came loose. It no longer held him. Blaine rolled, with a powerful twist of body, against the legs of the man who was bending over him.

Grant went over, face forward on the floor, with a roar of rage. Blaine, clawing his way to his hands and knees, broke free and lunged to his feet out beyond the table.

Grant swarmed off the floor. Blood dripped slowly from his nose where it had struck against the boards. One hand was raw with blood oozing

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from the knuckles where his hand had scraped.

He took a quick step forward and his face was twisted with a double fear.

Then he lunged, head lowered, arms outthrust, fingers spread, driving straight for Blaine. He was big and powerful and he was driven by an utter desperation that made him doubly dangerous since he would be careless of any danger to himself.

Blaine pivoted to one side—not quite far enough. One of Grant's outstretched hands caught at his shoulder, slipped off it, the fingers dragging, clawing wildly, and closing on Blaine's shirt. The cloth held momentarily, throwing Blaine off balance, then the fabric parted and ripped loose.

Grant swung around, then flung forward once again, a snarl rising in his throat. Blaine, his heels dug into the floor, brought his fist up fast, felt the jolt of it hitting bone and flesh, sensed the shiver that went through Grant's body as the big man staggered back.

Blaine swung again and yet again, following Grant, blows that started from his knees and landed with an impact that made his arm a dead thing from the elbow down—blows that shook and staggered Grant and drove him back, relentlessly.

It was no anger that drove Blaine, although there was anger in him, nor fear, nor confidence, but a plain and simple logic that this was his only chance, that he had to finish the man in front of him or himself be finished.

He had gotten in one lucky blow and he must never stop. No rough and tumble fighter, he would lose everything he'd gained if he let Grant regain his balance, if he ever gave him a chance to rush him again or land a solid blow.

Grant tottered blindly, hands clawing frantically at the air, groggy with the blows. Deliberately, mercilessly, Blaine aimed at the chin.

The blow smacked hollowly and Grant's head snapped back, pivoting to one side. His body became a limp thing without any bone or muscle that folded in upon itself. Grant slumped and hit the floor, lying like a rag doll robbed of its inner strength of sawdust.

Blaine let his arms fall to his side. He felt the stinging of the cuts across his knuckles and the dead, dull ache that went through his punished muscles.

He'd got in the first good blow and that had been nothing but pure and simple luck. And he had found the key that unlocked the robe and had that been a piece of luck as well?

He thought about it and he knew that it had not been luck, that it had been good and solid information plucked from the file of facts dumped into his brain when the creature on that planet five thousand light-years distant had traded minds with him. The phrase had been a command to the robe to get its clutches off whatever it had trapped. Sometime in its mental wanderings across unimagined space, the Pinkness had soaked

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up a wondrous amount of information about the cactus people. And out of this incredible junk heap of miscellaneous facts the terribly discerning brain that belonged to humankind had been able to select the one undistinguished fact which at a given moment had high survival value.

Blaine stood and stared at Grant and there was still no movement in the man.

And what did he do now, Blaine wondered.

He'd get out of here as quickly as he could.

He would run again, of course, Blaine told himself with bitterness. Running was the one thing he could do really well. He'd been running now for weeks on end and there seemed no end to it.

Some day, he knew, he would have to stop the running. Somewhere he'd have to make a stand, for the salvation of his self-respect if for no other reason.

But that time had not yet come. Tonight he'd run again, but this time he'd run with purpose.

He turned to get the bottle off the table and as he moved, he bumped into the robe, which was humping slowly on the floor. He kicked it savagely and it skidded weakly, almost wetly, into a lump in the fireplace corner.

Blaine grabbed the bottle in his fist and went across the room to the pile of goods stacked in the warehouse section.

He found a bale of goods and prodded it and it was soft and dry. He poured the contents of the bottle over it, then threw the bottle back into the corner of the room.

Back at the fireplace, he lifted the screen away, found the shovel and scooped up flaming coals. He dumped the coals on top the liquor-wetted goods, then flung the shovel from him and stepped back.

Little blue flames licked along the bale. They spread and grew.

It was all right, Blaine knew.

Given five good minutes and the place would be in flames. The warehouse would be an inferno and there'd be nothing that could stop it. The transo would buckle and melt down and the trail to Fishhook would be closed.

He bent and grasped the collar of Grant's shirt and tugged him to the door. He opened the door and hauled the man out into the yard, some thirty feet distance from the building.

Grant groaned and tried to get to hands and knees, then collapsed upon the ground.

Blaine stood watching the windows of the Post fill with the red of roaring flames.

Blaine turned and padded softly down the alley.

Now, he told himself, would be a splendid time to make a call on Finn. In just a little while the town would be agog with the burning of the Post and the police much too busy and officious to bother with a man out on the street in violation of the curfew.

TO BE CONCLUDED

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Every day it was there. But perhaps, as Protz suggested, the water off the point was merely a good place to fish.

His intercom clicked. "Mr. Wembling, sir."

"Send him in," Dillinger said, and turned towards the door.

Wembling entered jauntily, hand outstretched. "Morning, Ernie."

"Good morning, Howard," Dillinger said, blinking at Wembling's ridiculously patterned shirt.

"Come down to the lounge for a drink?"

Dillinger lifted a stack of papers from his desk, and dropped it. "Sure."

They walked down a palatial corridor to the lounge, and a uniformed attendant took their orders and brought the drinks. Dillinger idly stirred the ice in his glass and looked through the enormous window at the terrace, and the beach beyond. Wembling's landscaping crew had done its work well. Velvety grass and colorful shrubs surrounded the hotel. The pool, ready for use, stood deserted. Off-duty navy men and workers crowded the beach, and speared fish off the point.

Wembling prated enthusiastically over the progress he was making on his new sites, which were fifty miles down the coast in both directions.

"It's a headache to me, your scattering these sites all over the place," Dillinger said. "I have to guard them."

Wembling reached over and patted his arm. "You're doing a good job, Ernie. We haven't had any trouble since you took over. I'm putting in a good word for you where it'll do the most good."

"There's room for fifty hotels right here on the peninsula," Dillinger said. "Not to mention a few golf courses."

Wembling turned a veiled smile in his direction. "Politics and law," he murmured. "Stay away from both of them, Ernie. You have brains and talent, but it isn't that kind of brains and talent."

Dillinger flushed, and turned his gaze to the window again. The fishing boat was a mere speck on the horizon. It was probably drifting or sailing slowly, but it seemed motionless.

"Have you heard anything about Commander Vorish?" Wembling asked.

"The last I heard, he'd taken the *Hiln* on training maneuvers."

"Then—they didn't fire him?"

"They investigated him," Dillinacd with a grin. "But all he got was a commendation for handling himself well in a difficult situation. My guess is that any action against him would have resulted in publicity, and someone didn't want publicity. Of course I don't know anything about politics and law. Did you want Vorish fired?"

Wembling shook his head thoughtfully. "No. I had no grudge against him. There's no profit in grudges. We both had a job to do, but he went at his the wrong way. All I wanted was to get on with the work, and

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after he left I passed the word along to go easy on him. But I thought they'd kick him out of the navy, and if they did I wanted him back here on Langri. I think he understood these natives, and I can always use a man like that. I told him to get in touch with my Galaxia office, and they'd make arrangements to get him back here. But I never heard from him."

"He didn't get fired. The next time you see him he'll probably be an admiral."

"The same goes for you," Wembling said. "If you ever leave the navy, come back to Langri. I'm going to have a big enterprise to run here, and I'll need all the good men I can get. And good men aren't always easy to find."

Dillinger turned aside to hide his smile. "Thanks. I'll remember that."

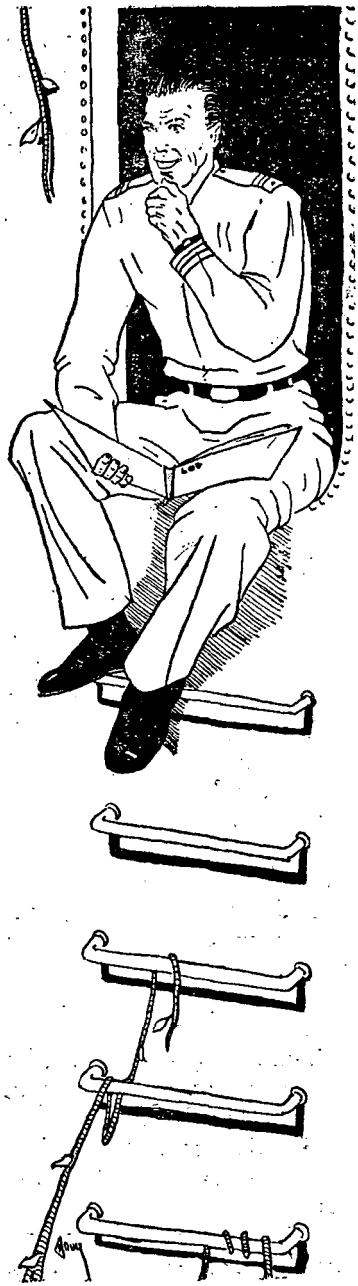
Wembling slapped the table, and pushed himself erect. "Well, back to work. Chess tonight?"

"Better make it late," Dillinger said. "I've got to get that work cleaned up."

He watched Wembling waddle away. He had to admire the man. Even if he loathed him, and loathed his methods, he had to admire him. He got things done.

Protz was waiting for him when he got back to his office—Commander Protz, now, Captain of the *Rirga,* the flag ship of Dillinger's 984th Squadron. Dillinger nodded at him, and spoke into his intercom.

"I don't want to be disturbed." He



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switched it off, and turned to Protz. "What's the score."

"We're losing," Protz said. "It definitely didn't crash. According to the sentry, it came in for a perfect landing back in the forest. Wembling isn't missing a supply ship, and we know it didn't belong to us. The recon planes have been taking the tops out of the trees in that area, and they can't spot a thing."

"So it wasn't Wembling's," Dillinger said. Since he'd gotten the first report on the unidentified ship, at dawn that morning, he'd been thinking that it had to be Wembling's. He turned in his chair, and looked out to sea. "So the natives have visitors."

"Whoever it was, they were expected," Protz said. "They got the ship camouflaged in a hurry. Maybe they had a landing pit dug there."

"Wembling thinks someone in his supply fleet has been keeping the natives in touch with that attorney of theirs. I suppose we should have monitored the planet. But we'd have to leave a ship in orbit, and we've needed every man, with Wembling building hotels all over the place. Well, the ship is here. The question now, is—what is it doing?"

"Smuggling arms?"

"Just what we need to make this assignment interesting. Has Intelligence turned up anything?"

"Nothing up to 0800 this morning. Want to make a ground search for the ship?"

"It would take too many men. If they have a landing pit, even a ground search might miss it—and we'd be too late now if we did find it. They'll have it unloaded. No. Let Intelligence work on it, and give them more men if they think they can use them."

"Anything else?"

"Get ready for the worst. Protz, of all the jobs the navy has given me to do, this one is the dirtiest. I hoped I'd get out of it without a shot fired at the natives. I'd much rather shoot Wembling."

The thing had been mishandled from the start, Dillinger thought. This attorney the natives had gotten ahold of was probably competent enough—even Wembling admitted that. He'd caused Wembling some trouble, but Wembling was putting the finishing touches on Hotel Langri just the same.

Wembling's chief weapon was political pull. Politics should be fought with politics, with public opinion, and not in a court of law. He'd tried to explain that, once, to Fornri, but the native seemed uninterested. The Plan, Fornri said, would take care of everything. He did not seem to realize that it was already too late.

If Dillinger had known in time what was happening to Langri, he believed he could have stopped it. Documented information, furnished anonymously to the wealthy ethnological foundations, to opposition newspapers on key planets, to opposition leaders in the Federation Congress—the resultant explosion would have rocked the government and

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rocked Wembling right off Langri.

But he had not known until he reported to Admiral Corning and assumed command on Langri. Then he had done what he could. He had prepared a hundred copies of a statement on the Langri situation, and accompanied each with a photo of the original treaty. But he did not dare entrust them to normal communication channels, and he had to wait until one of his officers went on leave to get them on their way. They had probably reached their destinations by this time, and they would be studied and investigated, and eventually there would be some action. But it was too late. Wembling would have most of what he wanted, and probably other vultures, armed with charters, would be coming to the plunder of Langri.

It was tough on the natives. Wembling's men were eating a lot of fresh fish, and the natives' fishing boats had all but vanished from the sites where Wembling was working. Langri had a big native population—too big, and most of its food came from the sea. The word was that the natives weren't getting enough to eat.

Late in the afternoon, Dillinger called Wembling. "You have men flying back and forth all the time," he said. "Have they noticed any unusual native activity?"

"I didn't hear about any," Wembling said. "Want me to check?"

"I wish you would."

"Hold on a minute."

He heard Wembling snapping out an order. A moment later, he said to Dillinger, "Do you think the natives are up to something?"

"I know they are, but I can't figure out what it is."

"You'll handle them," Wembling said confidently. "There was a time when I wanted them annihilated, but since you've been keeping them out of my hair, I'd just as soon live and let live. Hell, they might even be a tourist attraction when I get things going here. Maybe they weave baskets, or carve voodoo charms, or something like that. I'll sell them in the hotel lobby."

"I'm not worrying about their basket weaving," Dillinger said dryly.

"Anyway . . . just a moment. Ernie? Nobody saw anything unusual."

"Thanks. I'm afraid I'll have to call off that chess game. I'll be busy."

"Too bad. Tomorrow night, then?"

"We'll see."

Langri would have been enchanting by moonlight, but there was no moon. Wembling had a scheme to produce artificial moonlight, but until he put it into operation night would smother the planet's beauty in blackness.

Looking down into the blackness, Dillinger saw light. At every native village there were dozens of fires. Often their outlines blurred together into one brilliant patch of light. When they were farther apart, they appeared as a multitude of bright dots leaping up into the darkness.

"You say it isn't normal?" Dillinger asked the recon pilot.

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"Definitely not, sir. They fix their evening meal along about dark, when the fishing boats get in. When that's over with, you can fly the whole coast without seeing a flash of light. Except where our men are. I've never seen even one fire going this late."

"It's a pity we know so little about these natives," Dillinger said. "The only one I've ever talked with is this Fornri, and there's always something —distant about him. I never know what he's thinking. Colonial Bureau should have sent a team to study them. They could use some help, too. Their fishing will fall off even more when Wembling gets a mob of tourists out on the water. They'll need some agriculture. What do you make of it, Protz?"

"It's suggestive, but darned if I know what it suggests."

"I know what it suggests," Dillinger said. "A strange ship lands this morning, and tonight every native on the planet stays up all night. They're getting ready for something. We'd better get back and make a few preparations of our own."

There was little that he could do. He had a defense line around each of Wembling's three building sites. He had his ships sited to give maximum support. All that had been worked out months before. He placed his entire command on alert, doubled the guard on the beaches, and set up mobile reserves. He wished he had a few army officers to help out. He'd spent his entire adult life learning how to wage war in space, and now for the first time in his military career he was faced with the possibility of battle, and he was landbound, and in danger of being embarrassed by hoards of untrained natives.

The night intelligence sheet arrived at dawn, virtually blank. Except for the fires there was nothing to report. Dillinger passed it across to Protz, who glanced at it and passed it back.

"Go down and see Wembling," Dillinger said. "Tell him to give his men the day off, and keep them in their quarters. I don't want to see one of them around. That goes for him, too."

"He'll howl."

"He'd better not howl to me. If we knew these natives better, maybe we could see this thing from their point-of-view. Somehow I just can't see them hitting us with an armed attack. It'd get a lot of them killed, and it wouldn't accomplish a thing. Surely they know that as well as we do. Now if you were a native, and you wanted to stop Wembling's work, what would you do?"

"I'd kill Wembling."

Dillinger slapped his desk disgustedly. "O.K. Give him an armed guard."

"What would you do?"

"I'd plant some kind of explosive at carefully chosen points in the hotels. If it didn't stop the project altogether, it'd throw an awful delay at Wembling's grand opening. You know—"

"That might be it," Protz said. "It makes more sense than an all-out at-

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tack. I'll put special guard details around the buildings."

Dillinger rose and went to the window. Dawn was touching Langri with its usual lavish beauty. The sea was calmly blue under the rising sun. Off the point . . .

Dillinger swore softly.

"What's the matter?" Protz said.

"Look." Dillinger pointed out to sea.

"I don't see anything."

"Where's the fishing boat?"

"It isn't there."

"Every day as long as we've been on this planet there's been a fishing boat working off the point. Get the recon planes out. Something is decidedly fishy."

Thirty minutes later they had their report. Every fishing boat on Langri was beached. The natives were taking the day off.

"They seem to be congregating in the largest villages," the intelligence officer said. "A7—that's Fornri's village, you know—has the biggest crowd. And then B9, D4, F12—all along the coast. There are fires all over the place."

Dillinger studied a photo map, and the officer circled the villages as he called them off. "At this point," Dillinger said, "there's just one thing we can do. We'll go over and have a little talk with Fornri."

"How many men do you want?" Protz asked.

"Just you and I. And a pilot."

They slanted down to a perfect landing in the soft sand of the beach. The pilot stayed with the plane, and Dillinger and Protz climbed the slope to the village, making their way through throngs of natives. Dillinger's embarrassment increased with each forward step. There was no sign of a sinister conspiracy. A holiday atmosphere prevailed, the gaily dressed natives laughing and singing around the fires—singing in Galactic, an accomplishment that never ceased to intrigue Dillinger. The natives respectfully made way for them. Otherwise, except for timid glances from the children, they were ignored.

They reached the first huts and paused, looking down the village street. Mouth-watering odors of a feast in preparation reminded Dillinger that he had missed breakfast. At the far end of the street, near the largest hut, native men and women stood quietly in line. Dillinger waited helplessly for some official acknowledgment of his presence.

Suddenly Fornri appeared before him, and accepted his hand. "We are honored," Fornri said, but his face, usually so blandly expressionless, revealed an emotion which Dillinger found difficult to interpret. Was he angry, or merely uneasy? "May I inquire as to the purpose of your visit?" he asked.

Dillinger looked at Protz, who shrugged and looked the other way. "I came to . . . to observe," Dillinger said lamely.

"In the past, you have not interfered in the lives of my people. Is that to be changed?"

"No. I am not here to interfere."

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"Then your presence is not required here. This does not concern you."

"Everything that happens on Langri concerns me," Dillinger said. "I came to learn what is happening here. I intend to know."

Fornri withdrew abruptly. Dillinger watched him walk away, watched a group of young natives gather around him. Their manner was quiet, but urgent.

"Funny thing," Protz mused. "With any primitive society I've ever seen, the old men run things. Here on Langri, it's the young men. I'll bet there isn't a man in that crowd who's much over thirty."

Fornri returned. He was uneasy—there could be no doubt of that. He gazed earnestly at Dillinger's face before he spoke. "We know that you have been a friend to my people, and helped us when you could. It is the Mr. Wembling who is our enemy. If he knew, he would attempt to interfere."

"Mr. Wembling will not interfere," Dillinger said.

"Very well. We are holding an election."

Dillinger felt Protz's hand tighten on his arm. He repeated dumbly, "An election?"

Fornri spoke proudly. "We are electing delegates to a constitutional convention."

An idyllic setting. The forest clearing overlooking the sea. Women preparing a feast. Citizens waiting quietly for their turns in the grass voting hut. Democracy in action.

"When the constitution is approved," Fornri went on, "we shall elect a government. Then we shall apply for membership in the Galactic Federation of Independent Worlds."

"Is it legal?" Protz demanded.

"It is legal," Fornri said. "Our attorney has advised us. The main requirement is fifty per cent literacy. We have over ninety per cent literacy. We could have done it much sooner, you see, but we did not know that we needed only fifty per cent."

"You are to be congratulated," Dillinger said. "If your application for Federation membership is accepted, I suppose your government will force Wembling to leave Langri."

"We intend that Langri shall belong to us. It is the Plan."

Dillinger held out his hand. "I wish you every good fortune with your election, and with your application for Federation membership."

With a last glance at the line by the voting hut, they turned and walked slowly back to the plane. Protz whistled, and rubbed his hands together. "And that," he said, "will finish Wembling."

"At least we've solved the mystery of that unknown ship," Dillinger said. "It was their attorney, coming to advise them and help them draw up a constitution. As for this finishing Wembling, you're wrong. The Wemblings in this galaxy don't finish that easily. He's ready for this. You might almost say he's been expecting it."

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"What can he do?"

"No court of justice would make him give up what he already has. The natives can keep him from grabbing more land, but what he's developed will be his. He acquired it in good faith, under a charter granted by the Federation. Maybe he'll get to connect up his sites and own a hundred mile stretch of coast. If he doesn't, he has enough space at each site to build a thundering big resort. These enormous golf courses he'd been laying out—that land is developed. He'll get to keep it, and there'll be room there for another hundred hotels on each site if he wants to build them. He'll flood the sea with pleasure fishermen, and starve the natives."

Dillinger looked back at the village, and shook his head sadly. "Do you realize what a tremendous accomplishment that is? Ninety per cent literacy. How they must have worked! And they were beaten before they started. The poor devils."

V

The normal behavior of a forest trail, Dillinger thought, *would be to wander—around trees, away from thickets, generally following the path of least resistance. This trail did not wander. It might have been laid out by a surveyor, so straight did it run. It was an old trail, and a well-worn trail. Trees must have been cut down, but there were no traces of the stumps.*

Ahead of him, Fornri and a half dozen other young natives kept a steady, killing pace and did not look back. They had covered a good five miles, and there seemed to be no end to it. Dillinger was perspiring, and already tired.

Fornri had come to him at Hotel Langri. "We would like for you to come with us," he said. "You alone." And Dillinger had come.

Hotel Langri was all but deserted. At dawn tomorrow the 984th Squadron would head back into space, where it belonged. Wembling and his workmen had already left. Langri had been returned to the possession of its rightful owners.

It had been an absurdly simple thing, this Plan of the natives—absurdly simple and devastatingly effective. First there had been the application for Federation membership, which fortunately had arrived in Galaxia just as Dillinger's anonymous letters went off with a resounding explosion that overturned the government, caused a turmoil in the Colonial Bureau and Navy Department, and stirred up repercussions as far away as Langri, where a committee touched down briefly for a stormy investigation.

The application was acted upon immediately, and it received unanimous approval.

Wembling was undisturbed. His attorneys were on the job before the last vote was counted, and the native government received a court order to honor Wembling with firm title to the land he had already developed. This the Langri government did, and

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so complacently that Wembling slyly added several hundred acres to his claim without stirring up a ripple of protest.

Then came the masterstroke, which not even Wembling had foreseen.

Taxes.

Dillinger had been present when Fornri handed Wembling his first tax billing from the government of Langri. Wembling had screamed himself hoarse, and pounded his desk, and vowed he would fight it through every court in the galaxy, but he found the courts to be strangely out of sympathy with him.

If the elected representatives of the people of Langri wished to impose an annual property tax equal to ten times the property's assessed valuation, that was their legal right. It was Wembling's misfortune that he owned the only property on the planet which had an assessed valuation worth recording. Ten times the worth of a grass hut was a negligible value above zero. Ten times the worth of Wembling's hotels amounted to ruin.

The judges were in perfect agreement with Wembling that the government's action was unwise. It would discourage construction and industry and hold back the planet's development indefinitely. In time that would be perfectly obvious to the people of Langri, and then it would be their privilege to elect representatives who would write more lenient tax laws.

In the meantime, Wembling must pay the tax.

It left him a choice of not paying and being ruined, or paying and being much more severely ruined, and he chose not to pay. The government confiscated his property for nonpayment of taxes, and the Langri situation was resolved to the satisfaction of all but Wembling and his backers. Hotel Langri was to become a school and university for the native children. The offices of government would occupy one of the other hotels. The natives were undecided as to what to do with the third, but Dillinger was certain they would use it wisely.

As for Wembling, he was now an employee of the people of Langri. Even the natives admired the way he got things done, and there were islands, many islands, it turned out, far out in the sea where happy vacationers would not interfere with the natives' fishing grounds. Would Mr. Wembling, Fornri asked, like to build hotels on those islands and run them for the Government of Langri? Mr. Wembling would. Mr. Wembling did, in fact, wonder why he had not thought of that in the first place. He negotiated a contract with the natives' attorney, moved his men to the islands, and enthusiastically began planning a whole series of hotels.

Dillinger, following the natives along a forest path, felt serenely at peace with himself and the galaxy around him.

The path ended in an enormous clearing, carpeted with thick grass

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and flowers. Dillinger stopped to look around, saw nothing, and hurried to catch the natives.

On the opposite side of the clearing was another path, but this one ended abruptly at a rough pile of stones, a cairn, perhaps, jutting up from the forest floor. Beyond it, rusting, overgrown with vines, hidden by towering trees, lay an old survey ship.

"One of your people once came to live among us," Fornri said. "This was his ship."

The natives stood with hands clasped behind them, their heads bowed reverently. Dillinger waited, wondering what was expected of him. Finally he asked, "There was just one man?"

"Just one," Fornri said. "We have often thought that there may be those who wondered what happened to him. Perhaps you could tell them."

"Perhaps I could," Dillinger said. "I'll see."

He struggled through the undergrowth and circled the ship, looking for a name or an identification number. There was none. The air lock was closed. As Dillinger stood contemplating it, Fornri said, "You may enter if you like. We have placed his things there."

Dillinger walked up the wobbly ramp, and stumbled along a dark passageway. The dim light that filtered into the control room gave the objects there a ghostlike aspect. On a table by the control panel were small mementos, personal effects, books, piles of papers. Dillinger thoughtfully handled a rusted pocket knife, a rosary, a broken compass.

The first book he picked up was a diary. George F. O'Brien's diary. The entries, written in a precisely penciled hand, were too dim to read. He took the books and papers to the air lock, sat down on the ramp, and began to turn the pages.

There were detailed entries describing O'Brien's early days on the planet, more than a century before. Then the entries became less regular, the dates uncertain as O'Brien lost track of time. Dillinger came to the end, found a second volume, and continued reading.

Just another freebooter, he thought, kicking around on a strange planet, prospecting for metals, enjoying himself with a native harem. Surely it was not this man . . . .

The change came subtly down through the years, as O'Brien came to identify himself with the natives, became one of them, and finally faced the future. There was an astute summary of Langri's potential as a resort planet, that might have been written by Wembling. There was a dire warning as to the probable fate of the natives. "If I live," O'Brien had written, "I do not think this will happen."

And if he should not live?

"Then the natives must be taught what to do. There must be a Plan. These things the natives must know."

Government and language. Interplanetary relations. History. Economics, commerce and money. Politics. Law and colonial procedure. Science.

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"Not just one man!" Dillinger exclaimed to himself. "He couldn't have!"

The initial landing, probably by a survey ship. Steps to observe in capturing the crew. Negotiations, list of violations and penalties. Achievement of independent status. Steps to Federation membership. Steps to follow when independent status was violated.

"Not just one man!"

It was all there, laboriously written out by an uneducated man who had vision and wisdom and patience. By a great man. It was a brilliant prognostication, with nothing lacking but Wembling's name—and Dillinger had the impression that O'Brien had known more than a few Wemblings in his day. It was all there, everything that had happened, right up to the final master stroke, the ten-to-one tax rate on the hotels.

Dillinger closed the last notebook, carried the papers back to the control room and carefully rearranged things as he had found them. Some day Langri would have its own historians, who would sift through these papers and send the name of George F. O'Brien across the galaxy in drily-written tomes read only by other historians. The man deserved a better fate.

But perhaps verbal tradition would keep his memory a living thing on Langri far into the future. Perhaps, even now, around the fires, there were legendary tales of what O'Brien had done and said. Or perhaps not. It was difficult for an outsider to probe into such matters, especially if he were a naval officer. That sort of thing required a specialist.

Dillinger took a last look at the humble relics, took a step backwards, and came to a full salute.

He left the ship, carefully closing the air lock behind him. Dusk had settled quickly there, deep in the forest, but the natives were waiting, still in attitudes of reverence.

"I suppose you've looked those things over," Dillinger said.

Fornri seemed startled. "No . . ."

"I see. Well, I found out—as much as there is to find out about him. If he has any family surviving, I'll see that they know what happened to him."

"Thank you," Fornri said.

"Were there no others who came and lived among you?"

"He was the only one."

Dillinger nodded. "O'Brien was a truly great man. I wonder if you fully realize that. I suppose in time you'll have O'Brien villages and O'Brien streets and O'Brien buildings, and all that sort of thing, but he deserves a really important monument. Perhaps—a planet can be named after a man, you know. You should have named your planet O'Brien."

"O'Brien?" Fornri said. He looked blankly at the others, turned back to Dillinger. "O'Brien? Who is O'Brien?"

THE END

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THE REFERENCE LIBRARY

By P. SCHUYLER MILLER

GREAT STUFF

THE publishers who free-handedly slap the label "best" on any collection of science fiction that comes their way have nothing at all to commend them, but there is another equally impressive word that they can bandy about much more freely with less danger of making fools of themselves. The word, of course, is "great."

I'm not saying the publisher wouldn't like you to believe that the stories in his collection are "great" in the sense of being world-shakingly memorable, but a tongue-in-cheek editor can remind himself that the word has a variety of other connotations. Mostly, I suspect, he is satis-

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fied if he has brought together a group of stories that will be great fun to read.

That, at any rate, is what Groff Conklin has done in his too-long-delayed return to the editing of science-fiction anthologies. "Six Great Short Science Fiction Novels"—a Dell First Edition, No. C-111; 350 pages for 50 cents—are really novelettes, as the back cover admits. They are "some of the best writing in the field of imaginative literature," as the flyleaf claims, but certainly not the best we have had or are going to have. For all that, it's a great collection, and it's good to have Mr. Conklin back in the business.

These six stories also demonstrate beautifully the tremendous variety of science fiction. In that respect, it's a great book to give to a beginner—he'll find practically everything except pure adventure.

Isaac Asimov opens with another of his variations on a theme he also composed: his three laws of robotics. "Galley Slave" pretzels up those seemingly simple directives, until a proofreading robot is found destroying the reputations of scholars—hence doing them a kind of harm—by altering the author's text. There's more to it than this, of course; in fact the story reminds me of Arthur Train's former "Mr. Tutt" tales of legal skulduggery. It's a chess game, but it is also saying several things about the relations between men and machines.

Judith Merril's "Project Nursemaid" is the most ambitious story in the book, the longest, and the closest to a novel—by anyone's definition. Like Algis Budrys' recent "Rogue Moon," this is a story about people and what their world does to them—not just the unraveling of an intricate plot. Colonel Edgerly has a dual job: to obtain babies who can be "born" mechanically, after a premature Caesarian delivery, on the Moon and who will grow up there as the first generation of men acclimated to Space; and to find foster-mothers who will go to the Moon to care for them. I'd like to think that this is the curtain-raiser for a longer, even more human book about the children who grow up in the Project. That could be a book that deserves all the meanings of great. As it is, all the people of the story come alive, and their problems are real and insistent—not academic manipulations of behavior.

Clifford Simak, in "Final Gentleman," has a near-fantasy about the famous writer who accidentally discovers that he doesn't exist. This time we have a great puzzle: just what is going on around Hollis Harrington? What is reality and what illusion? And who or what is "Harvey" the mastermind of *Situation* magazine?

Science fiction, we all know, is a great medium for social experimentation and for spelling out the elementary rules of sociology and anthropology. Algis Budrys, in "Chain Reaction," transplants to another race—indeed, another species—on another planet some of the questions

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that our own world must solve, as "undeveloped" peoples with their own unreasonable desires to retain their identities are brought or dragged into the "civilized" world.

Damon Knight, in "Rule Golden," almost turns this same problem inside out. Now it is the alien who is bringing a superior culture to us, and we who are trying to insist that the largess of the stars fit our rigid cultural predispositions. The title points to the alien's principal weapon: reversing the Golden Rule—wasn't this picked up from Kingsley's "Water Babies?"—so that each person is done by as he does unto others. The question that the hero, who has liberated the alien, must answer for himself is: am I Judas, or the little Dutch boy with his finger in the dike? Are you helping Mankind when you change Mankind completely?

Last of the lot is Katherine MacLean's "Incommunicado". This is a great example of the interplanetary-type story, but hidden behind that particular facade is a bizarre concept of a musical logic, some twists on possible psi faculties, and as tangled a plot as you can get into that many words. This and the Budrys story, incidentally, both originated here, in 1950 and 1957 respectively.

So what do you ask of science fiction? As I've said, you have here examples of just about every major kind except the space-adventure tale that Poul Anderson or Gordon Dickson or Andre Norton might have done to round out the clutch. A robot story with a built-in jigsaw puzzle . . . a very realistic, very human story about the near future . . . a we-are-property story . . . a sociological basics story . . . an alien invasion story . . . a psi story full of plotwise arabesques. It's great fun, great stuff, and a great collection for almost any reader.

* * * * *

Now hear this!

The 19th World Science Fiction Convention—to be fondly known as the "Seacon"—will be held in Seattle, Washington, over the Labor Day week end, September 2-3-4 upcoming. Headquarters are at the Hyatt House Hotel, with free transportation to and from the Seattle airport.

Guest of honor at the Convention—and consequently dinner speaker—is Robert A. Heinlein, who did a "Sheridan's ride" halfway across the country to turn up at the Pittcon just in time to accept his Hugo for best novel of the year. John Campbell, who swears every year that he will never attend another convention, will be right back in the middle of a panel discussion, swinging and being swung at.

As was agreed in Pittsburgh last Labor Day, the registration fee will be split: $2.00 in advance, to Wally Weber, Treasurer, or Seattle Science Fiction Club, Box 1365, Broadway Branch, Seattle 2, Washington. That's all, if you don't attend; you get the progress reports and other literature, and do your share to help pay for the awards. If you do go to Seattle, there will be another $1.00 fee

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when you register—$3.00 in all.

I'm sorry that by the time you get this it will be too late to put in your nominations for the various "bests" of the year. Closing date was May 1st, and the word didn't reach me in time to pass it to you last month. Hugo's—the rockets named for Hugo Gernsback—will go to the best novel, best novelette or short story, best professional magazine, best professional artist, best fanzine, and best dramatic presentation—movie, TV, or what have you—of 1960.

Final voting will be limited this year to the Seacon members. If you join, you'll get a ballot, based on the nominations. This also was voted last fall at the Pittcon. Feeling is that the people who pay for the awards—which are not inexpensive to produce—should make the awards, but that the nominations should represent the interests of all readers and fans.

So—on to Seattle and Heinlein!

THE CHILD BUYER, by John Hersey. Alfred A. Knopf, New York. 1960. 258 pp. $4.00

The publisher of this "Novel in the Form of Hearings before the Standing Committee on Education, Welfare, & Public Morality of a certain State Senate, Investigating the conspiracy of Mr. Wissey Jones, with others, to Purchase a Male Child," certainly does not call it or consider it science fiction. Nevertheless, the time at which Mr. Jones, a representative of United Lymphomilloid, attempts to purchase the Male Child, ten-year-old Barry Rudd, is clearly in our future . . . our immediate future. And the techniques that Mr. Hersey uses to draw and quarter public education, big business, psychology, politics, and assorted minor hors d'oeuvres are those that science fiction has made its own.

Fat, know-it-all, somehow pitiable Barry Rudd is liked by almost nobody but respected as a genius by a few of his teachers. He is a natural candidate for a Lymphomilloid purchase—and what their grimly inhuman method of utilizing Barry's and other children's talents actually is, is revealed only near the end of the senatorial inquisition. That nobody turns a hair when it is revealed—that the senators are dazzled by the patriotism of it all—is one of the author's most cutting points.

As the extended title suggests, the entire story is told in the form of transcripts of the Committee hearings, beginning one Thursday and winding up the following Tuesday in time for lunch. The place is a nameless New England state whose place names bear a resemblence to the author's own Connecticut. The people are both types—and momentarily—individuals, mercilessly revealed. As types, they strip us naked as they strip themselves.

Although the author is slashing hard at much in "progressive" education, one of the strongest characters in the book is the principal, Dr. Frederika Gozar, who epitomizes ev-

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erything progressive education stands for. The difference is that she makes it work, whereas the run-of-the-mill teacher can't. The rote of formal, "old fashioned" teaching is far easier for mediocre teachers to handle, and does more for mediocre intelligences, than Dr. Gozar's challenges.

By adopting this format, the author has also tripped himself up. Over and over again the speakers break into pure auctorial exposition, out of context, out of character, and out of the flow of the action. This is something no "ordinary" science-fiction writer would permit himself, and no science-fiction editor would leave in a story. But in many respects, the disciplines of science fiction are stricter than those of "mainstream" fiction. "The Child Buyer" would be improved by John Campbell's leading hand.

TROUBLE WITH LICHEN, by John Wyndham. Ballantine Books, New York. No. 449K. 160 pp. 35¢

This English writer—whose "Midwich Cuckoos" is said to have been made into a very good film as "Village of the Damned" and consigned to the drive-ins as too intelligent for neighborhood horror programs—hasn't done anything really poor in a long time. "Trouble With Lichen" just isn't quite up to his own standards. I am immediately confounded by the fact that this is probably the sanest, most mature approach to the standard longevity theme we've had.

The trouble with lichen—or one particular species of Manchurian lichen—is that it contains an enzyme or other substance dubbed "antigerone" which slows down metabolism and lengthens a normal human life to two or three hundred years, or more. This is discovered more or less accidentally and independently by a wealthy, middle-aged scientist and a brilliant young woman in his laboratory. He digs in, treats himself and his children, and buries his secret until he has thought out a foolproof way of handling the social disruptions that must follow long life. She takes the bull by the horns, goes into the beauty business, and builds up a corps of unconscious, influential, intelligent near-immortals—naturally, all women.

Then the secret begins to leak, and the two scientists handle it in their own characteristic ways—neither quite successfully. Indeed, they are both saved by a rabbit-out-of-the-hat switch of circumstances, rather than by their own intelligence, and this is a disappointment.

By showing us the psychological group of people, John Wyndham has brought them closer to home than if he had indulged in the usual scenes of rioting and exhortation. On the other hand, we do like solutions in science fiction; we like to be in the orchestra during the big scene on stage. "Trouble With Lichen" ends with the third act curtain not yet up . . . indeed, it won't be played until next month, in Seattle. To me, this is disappointing.

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ROGUE MOON, by Algis Budrys. Gold Medal Books No. S-1057. 176 pp. 35¢

Here, expanded from the *F&SF* version, is one of the best science-fiction novels of 1961, and a signpost to where the field may be going.

In bare skeleton plot, the story is simple. A matter transmitter has been developed, and is being used to send men to the Moon. There they have discovered a mysterious and terrible formation or structure whose function seems to be to destroy anyone who attempts to explore it. Each man sees different things, and each comes to a horrible death in a different way and in a different place, but by piling sacrifice on sacrifice it has been possible to map the beginnings of a safe trail into the thing.

Then the matter transmitter is put to use again, to create duplicates of each man. These remain in telepathic communication with each other, until the moment the explorer dies. The problem: to find a man who will not be mentally destroyed by the trauma of feeling himself die, and using him to solve the puzzle of the formation.

So far we have a reasonably intricate and original puzzle plot, but Algis Budrys has clothed this gimmicky structure with the body of a novel. His story is about the people who must solve these problems, and only secondarily about the problems themselves. There is Edward Hawks, the scientist in charge of the program. There is the warped, death-seeking Al Barker, one of the most personally unpleasant characters of science fiction, who may be the man who can look death in the face again and again. There are other tormented people, thrown together in the search for the impossible: the personnel manager, Connington; Barker's socialite mistress, Claire Pack; a girl Hawks meets; the assistants at the laboratory. As we come to know them better, their personal problems grow clearer—and more hopeless—and more real.

For Barker does succeed. He can go through torture, and die in the bowels of the thing, while his other self on Earth "watches" through his eyes and feels with his senses, thinks with his mind. But the pressure of this unnatural life grows in him, and through him on the people around him. And in the end there is a revelation that explains much about what has haunted Hawks from the first.

Oddly enough, the monstrous thing on the Moon is the least plausible thing about the book. The problems of matter transmission are well realized, but the Thing and the final odyssey through its twisted interior is never more than a bad dream. Perhaps this is all it is intended to be—a symbol, or complex of symbols, for the monstrous constructs of our own minds, that draw us together, tangle and twist our lives, and free or destroy us here on rogue

Whatever meanings within meanings you may be able to read into "Rogue Moon", it's an impressive work, and the dismembered magazine version is only a shadow of the whole.

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THE HIGH CRUSADE, by Poul Anderson. Doubleday & Co., Garden City, N.Y. 1960. 192 pp. $2.95
DEATH WORLD, by Henry Harrison. Bantam Books, New York. No. A-2160. 1960. 154 pp. 35¢

Several months ago, when I was sounding off on the theme of the "Who Killed Science Fiction?" symposium—which produced nothing constructive in the Pittcon discussion that hadn't been said better in print—I tangled myself up in my metaphors and gave the net impression that I was downgrading such writers as Poul Anderson, Andre Norton, Gordon Dickson and Randall Garrett as "mediocre." What I was trying to say is that the writers who know how to tell a good story well will always contribute the great bulk of science fiction. The better they are at their craft—and the group just mentioned are good—the better the median level of science fiction will be.

There is hardly any need to describe these two books here, since they were both serialized in this magazine during the past year. Poul Anderson has a wildly improbable adventure of a small group of English crusaders who set about planet-conquering instead and do very well at it. Harry Harrison, earlier in the year, had produced an action story with a built-in mystery, in which an ESP-gifted professional gambler tried to solve the problem of the utter, pyramiding malignancy of the planet Pyrrus. I find it difficult to believe that you didn't want to see how Sir Roger's zany but canny crusade came off, and find out what was triggering the wild life of Pyrrus. Neither book will be remembered much a generation from now, except as representing one facet of their authors' work. Poul Anderson has already earned himself a spot in that future summing up, while Harrison has yet to prove his place. Meanwhile they're giving us that good "mediocre"—or median—science fiction that I was damning with faint praise and/or praising with faint damns.

THE VORTEX BLASTER, by E. E. Smith, Ph.D. Gnome Press, Hicksville, N.Y. 1960. 191 pp. $3.00

"Doc" Smith's original "Vortex Blaster" stories were published in 1941 and '42 in a couple of minor magazines, *Comet Stories* and *Astonishing Stories.* I don't remember whether, at that time, he had tied them into the universe of his Lensman series, then going strong here. He has done that now, however, for the book version; in fact, I suspect that he may be off on a parallel series dealing with another group of potent characters who supplement the Lensmen in the Cause of Good.

Neal "Storm" Cloud, Doctor of Nucleonics, lives in a world in which roving atomic vortices, created in some unknown manner, are destroying lives and property and threatening to wipe out whole planets and suns. His own wife and children have been annihilated by one of the

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things, and he declares war on them. Then, thanks to some potent personal powers of mental computation, he finds that he can outdraw them . . . and becomes the galaxy's vortex blaster.

This promptly brings him up against some crooks who are deliberately creating vortices to cover up their own flourishing business in home-grown thionite, that horrendous drug that we've met in the Lensman books. And then the book really gets rolling as he acquires a ship and an utterly mixed crew of humanoids and nonhumanoids all of them helpful in their talented ways, all of them dedicated to the Blaster's cause. Chiefest of these is Vesta the Vegian, whose people evolved from the cat family and who have retained the grace, directness, independence and, it must be said, cruelty of their forebears. Vesta is one of Doc's better nonhuman creations, as fascinating in her way as Pagadan in the Schmitz series about a quite different galaxy.

Finally, Neal Cloud finds a worthy replacement for his lost wife, discovers a strange pattern to the vortex outbreaks, and ranges far outside the Galaxy for a solution. He has, in the meantime, discovered himself to be potentially more powerful mentally than any Lensman—except possibly those Children of the Lens who are still somewhere in the future.

Except for Vesta, this is minor Smith. It may be that by now we're jaded by the superlatives of nearly a generation of world wrecking and super-powers. But "Storm" Cloud never develops into a Kinnison, no matter what his mental powers, and the menaces he faces seem to be overcome too easily. Maybe, if there is a new series in the making, it will reach its peak later, as the Lensman series did, for me, in "Gray Lensman."

EVERY BOY'S BOOK OF OUTER SPACE STORIES, edited by T. E. Dikty. Frederick Fell, Inc., New York. 1960. 283 pp. $3.95

When these eleven stories were first published—eight of them here in the then Astounding, between 1938 and 1956—they were considered straight adult fare. As far as I know, they have not been bowdlerized in aiming them at teen-agers, which speaks well for its editor and publisher.

The purpose of the book is to show that there is more to "outer space" than piloting a rocket. Each in its way, the successive stories show different facets of Man's—and men's—venturing to the planets and the stars.

Three stories in particular stand out. Poul Anderson's "Gypsy" is both a superb creation of the wonders of far worlds and a knowing portrait of the kind of man who must go on and on until there are no farther worlds. Frank M. Robinson's "The Reluctant Heroes" is already a small classic with its picture of the ruthless responsibilities that go with pioneering. C. M.

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Kornbluth's "That Share of Glory" is both a delightful development of the concept of a pseudo-religious order of interpreters, the Heralds, and a glimpse into the machinations of interstellar politics.

The rest? Lee Correy, in ". . . And a Star to Steer Her By," suggests that the lure of Space will be as strong as the lure of the sea for a future generation of spacemen. Malcolm Jameson's "Blind Man's Buff" hangs the problems of planetary mapping on Venus over a skeleton plot full of lost civilizations, dirty dealing, and near-magical inventions. Robert Abernathy's "The Canal Builders" plays with the twist that matter transmission will get Man to Mars before rockets will, then untwists the twist in a way that used to be very familiar here nearly twenty years ago.

Oliver Saari's "Sitting Duck" is another nice little bit about the responsibility of command in a satellite, and in the oldest story of the lot, "Men Against the Stars," by Manly Wade Wellman—vintage 1938—the same subject is handled more melodramatically. For a really adult approach, see Algis Budrys' current paperback, "Rogue Moon"—science fiction has come a long way in a generation. For that matter, the same author gives the politics of space a nice treatment in "Man in the Sky"—the problem of the first astronaut, who dies in orbit.

We have left two minor items: Julian May's "Star of Wonder," which verges on fantasy in its denouement to a story of interstellar refugees, and Robert Courtney's "A Rover I Will Be," with its young spaceman whose parents want him to settle down.

It's an excellent collection for "every boy"—I think better than the same publisher's previous "Every Boy's Book of Science Fiction"—and the better items should give younger readers a taste of what they can find if they look for it. For instance, right here.

MEN INTO SPACE, by Murray Leinster. Berkley Medallion Books No. G-461. 142 pp. 35¢

I didn't see the television series on which this is based, and the book doesn't tell you whether Murray Leinster scripted the programs or did this series of episodes from some of the scripts. Anyway, it's the workmanlike job you'd expect from science fiction's most thorough-going professional.

The six episodes follow Ed McCauley from a young First Lieutenant riding an Aerobee into space to a Colonel leading the First Martian Expedition with an unqualified impostor aboard. The plots may be pretty familiar—they have to be for television—but the details have all the verisimilitude we expect of the Old Master.

Since practically everyone else *has* seen the show, these are the ones in which McCauley: (1) lives through the Aerobee flight; (2) pilots an X-21 rocket plane into and out of orbit with an injured man aboard;

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(3) has all the usual adventures building a space platform; (4) copes with a pair of duelists on the Moon; (5) field-tests the Bramwell-Faraday radiation shield on a flight to Venus, in spite of its cracked inventor; and (6) goes to Mars with the 'ringer aboard.

For the young and nostalgic, and anyone else who likes to observe good workmanship.

EARTHMAN, GO HOME! by Poul Anderson
TO THE TOMBAUGH STATION, by Wilson Tucker. Ace Books No. D-479. 110 & 145 pp. 35¢

This Ace Double consists of two unabashed space-adventure yarns back-to-back. Both are minor efforts by writers who have produced major ones, and will again.

"Earthman, Go Home!" gives us Poul Anderson's swashbuckling interstellar hero, Captain Sir Dominic Flandry of the Terran Empire Naval Intelligence Corps, in a very minor but adequately active adventure. He lands on the rather backward planet, Unan Besar, and finds himself at the mercy of the planetary Biocontrol, which has a monopoly on pills needed to keep alive. With the aid of some extra-legal types, including one suitably luscious wench, he has to keep himself alive and upset the apple-cart. He does—but he's done it with much more style in the past.

"Bob" Tucker's trip to the Tombaugh Station on Pluto is clannishly enlivened by the author's using some of the Big-Name-Fans and their 'zines as the names of charcters and ships. Its characters race around the solar system quite as freely as they did in the "good old days" when a squirt of atomic hydrogen would get you to Sirius and back ahead of the Bad Guys. Well, maybe not *quite* that freely, because insurance investigator Kate Bristol is cooped up in a space the size of three telephone booths and a glove compartment for a suitably long time, with the man she is trying to prove a murderer. All kinds of back talk and double dealing goes on. You'd think they were trying to finagle a World Convention.

GUARDIANS OF TIME, by Poul Anderson. Ballantine Books, New York. No. 422K. 1960. 140 pp. 35¢

Among the writers not ashamed to write science-fiction action and adventure stories, and willing to take the time to do it well, is Poul Anderson. This original collection gives us four of his Time Patrol stories from *Fantasy & Science Fiction*—adventures of Manse Everard, who signs up with an organization that polices all of time to keep untoward events from producing an undesirable future.

Granted the concept—which once would have been enough to make the stories unique—the author gets down to the fun of showing the past through a modern man's eyes, in a

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series of "if" views of history. In "Time Patrol," the opening story, Everard is trained and picks up a clue from Sherlock Holmes to track down a man who wants to change time and make his own century better, by civilizing Saxon England. "Brave to be a King" is perhaps the most fascinating of the four, as Everard tries to find a fellow Patrolman, lost in the Persia of Cyrus. I'd recommend Harold Lamb's extrapolated biography, "Cyrus the Great," for companion reading.

In the third adventure, "The Only Game in Town," we have another fascinating concept: America discovered by Genghis Khan's explorers in 1280 A.D., and Everard and a Navajo friend sent to keep the Western Hemisphere from becoming an outpost of Asia instead of the preserve of an expanding Europe, two centuries later.

In the fourth and last story, history *is* changed and the Time Patrolmen find themselves stranded in an America which has been colonized by Carthaginians and North African Celts, after a past in which Hannibal overran Rome. Their job: to change it back.

Let's hope Ballantine and Anderson give us more of these glimpses of dark corners of history.

PAPERBACK REPRINTS

OSSIAN'S RIDE, by Fred Hoyle. Berkeley Books, N.Y. No. G-495. 153 pp. 35¢

The maverick astronomer's second —and best—science-fiction novel, with more than a touch of John Buchan's grand love of the country: in this case, southwestern Ireland, where strange things are going on.

THE YEAR' BEST S-F: 5TH ANNUAL EDITION, edited by Judith Merril. Dell Publishing Co., N.Y. No. F-118. 320 pp. 50¢

The Dell editions are no longer the firsts, but they are certainly among the first and foremost bargains. I've said before that this is one of a top editor's top collections.

A CANTICLE FOR LEIBOWITZ, by Walter M. Miller, Jr. Bantam Books, N.Y. No. F-2212. 278 pp. 50¢

The original hardbound edition is likely to be a contender for best novel of 1960. Refresh your memory on the paperback, join the Seacon, and vote.

ADVENTURES ON OTHER PLANETS, edited by Donald A. Wollheim. Ace Books, N. Y. No. D-490. 160 pp. 35¢

A re-reprint; Ace had the original in 1955.

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Dear John:

Never, never did I think that you would get so bogged up in your reasoning as you did in your editorial in the March issue. You tripped up right in the beginning, where you envision that a Utopia needs a leader, and from there on in the going was pitiful, and my heart bled for you when you got mired in the last conclusion, e.g. that the best way to chose the leader would be from the twenty per cent of the population that earns the most money.

Yet several years back, in good old Astounding, you had a story—whose title and author I cannot for the life of me recall, nor will I root through all the old issues in an attempt to find it—which is still clear in my mind, as it portrayed the Utopia as it should be. It had to do with some militant invaders who landed on a planet which was founded on Ghandi's principles of nonviolence, and where people worked off "obs" or obligations.

So—Utopia should consist of small groups of people living in a semi-rural state. There can be no Utopia as soon as you have a big city type of living to deal with. The people should no be overspecialists in one field, but jacks of all trades, tinkerers. They are obligated to one another for survival, material comforts, and aesthetic pleasures. They do not have one leader, but they have a system like a city council in the New England States—the decisions are reached in a democratic process and sooner or later every adult—in his

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right mind—will have to serve on the "city council" type of loose government.

Whenever the population in this "Utopia" becomes excessive—so that the need might arise of police forces, organized types of social work, et cetera—the excess population moves to another asteroid. The unifying force within the community should be based on spiritual precepts, such as Unitarianism, or better yet, Judaism, but for heaven's sake not Puritanism. The philosophy to guide this community might be based on the principles of Albert Schweitzer—reverence for Life—and Ghandi—nonviolence.

What about the misfits? Such as emotionally unfit persons—psychotics—they could be shipped off to some prison colony, or perhaps they could even be treated by that time so that they could reach a plateau of being able to function adequately in that "utopia".

Nuts to rulers. You asked for our ideas on Utopia, and you got a real corker, a classical, idealistic, but I believe workable, corker from me.—Ursula Gerhart, 431 Elm Street, Reading, Pennsylvania.

Well . . . maybe Utopia while it lasts . . . but it's not long for this universe! The proposed system corresponds with the very primimitive organisms, like hydra, which are completely helpless when they encounter higher organisms made up of specialized cells. That Utopia has to be rural—primitive—because no one man can learn enough medical technology, or enough physics or metallurgy to match the achievements of a specialist, and remain a competent jack-of-all-trades.

Higher organisms found a leader—called a brain—necessary.

CONVENTION INFORMATION:

The 19th World Science Fiction Convention, sponsored this year by the Seattle Science Fiction Club, will be held September 2, 3 & 4, 1961. Robert A. Heinlein has consented to be the official Guest of Honor; John W. Campbell will also be featured on the program. The Convention will be held at the recently completed Hyatt House. Advance Convention memberships are $2.00 per person, with an additional $1.00 registration fee to be collected at the Convention. Send inquiries to Seattle Science Fiction Club, Box 1365, Broadway Branch, Seattle 2, Washington.

Good excuse for taking your vacation in the Pacific Northwest this year?

Dear John:

This is a fan letter. I just picked up the March 1961 Analog and read, with a great deal of pleasure, Arthur W. Orton's "The Four-Faced Visitors of Ezekiel." I don't believe the interpretation, of course, but I must admit that it hangs together neatly and is most ingenious.

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Why did you list it as a short story, however? It was clearly an article, and a good, imaginative one.

I was very unamused by Mr. Shlesinger's letter and his reliance on *Fortune's* statistics. There is one way to stay ahead of the Russians and that is to carefully cook statistics until they make it look as though we are staying ahead. I don't find this satisfactory myself.—Isaac Asimov

Cooked statistics, like printing impress many, make one feel so rich, fat and happy—

My dear Mr. Campbell:

When I was a young man, I knew a veteran of the Mexican War of 1848, he was close to a hundred. He said that our system of electing officials was a poor one. He said that if they put the names of everyone eligible for an office in a hat and pulled out one, we would have just as good a chance of getting a smart man, and a damn sight better chance of getting an honest one. He has a point.

My father used to say that if a man was not his own master by the time he was thirty-five, he had no business voting as he had proven himself unable to manage his own affairs successfully. To Father it was immaterial whether a hired man made a dollar a day or $100,000 a year, he was still a hired man and socially below the man who was his own master.

Your idea of restricting the franchise to the upper twenty per cent income group has good points, but in a society like ours where the school janitor makes more than the teachers, and a fork-lift operator makes more than a university professor can, you are loading the dice against the very class we need to run things.

It is not how much you earn, but how much you save that shows your ability to manage affairs. I know three men well. One never made more than $2.25 an hour, one made $150 a week the third made over $100 a week. All three bought homes in the same price range at the same time. The man on low wages, has paid for his home years ago, and now has another one fully paid for and a third has less than $500 mortgage still on it. The man who made and is making $150 a week still owes more than half of the purchase price, the third man lost his home inside of five years and has been on relief twice. Which one is the better manager? Which is better fitted to run public affairs?

Your plan eliminates at least ninety per cent of all women voters, or do you figure on adding together the incomes of both man and wife, and letting them both vote if they are in the twenty per cent?

I can see that you are not a thorough reader. Heinlein's system prescribed that *no one in military service could vote.* That was for *veterans* of public service at the risk of their lives, not merely combat veterans.

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Under his scheme you volunteered and the Government had to find something you could do, even if only as a guinea pig for medical research, or washgirl in a government laboratory, risking infection that might be fatal.

I have never believed in universal suffrage. In this country it is so easy to accumulate wealth, that I would restrict the ballot to heads of families, letting man and wife fight it out as to which one was the head, and to taxpayers owning real property. If you have no children you have no interest in the future, and if you don't own real estate you have no stake in the local community.

Once Americans wanted to be independent, running their own business, now the ideal is to have a secure job with a big corporation, with a pension plan for your evening years.

We are fast becoming a military oligarchy, and matriarchial to boot. When the full pattern is set, that will be something new in a society, for Military Societies have always been governed by males only, and for the first time since the invention of hoe agriculture, women can be financially independent of their men, as they were in hoe agriculture societies like the Iroquoian, which was matriarchial. Among the Senecas today, certain questions of great importance to the Seneca Nation, must be approved by a majority of the men and single women, AND, two-thirds of the mothers.

Once the mob cried for "*Pan et circenses*" now it is B.B.B. "booze, blondes, and baseball."

"Ill Fares that land, to hastening ills a prey,
Where Wealth accumulates, but men decay!"

Fifty-four per cent of draftees in Cleveland were rejected as physically or morally unfit last year. I call that decay—Arthur Smith

I repeat; Utopia isn't Heaven—the system will not be perfect nor yield perfect justice in every case. There will be individuals who shouldn't vote, who do get into the upper twenty per cent . . . but not any large or effective proportion.

Also, I specifically deny your hidden postulate that university professors, et cetera, are "of course" wiser than janitors, truckdrivers, et cetera. That, my friend, is a theory commonly held by intellectuals—and the majority of the present population holds otherwise. That makes it theory—and theory is to be discarded for pragmatism.

I agree that the present United States culture shows strong signs of decay; be it noted that this present culture has resulted from the application of ideas developed and promulgated by professorial theoreticians . . . which at least suggests that the horney-handed non-intellectuals might be better qualified to vote! Naturally, the ivory-tower theoretician sincerely believes in his superiority in determining the affairs of men. Name

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an instance where it has actually worked, though! You've stated a postulate; can you prove it? Should uneducated news-butchers be allowed to determine the direction of scientific progress? Edison did. Should very junior power company engineers be allowed to change the whole social structure of the nation? Henry Ford did.

Give me evidence that professors and teachers are, in real, pragmatic terms, superior guides to our future affairs!

Dear Mr. Campbell:

You seem to have asked your readers to solve a problem which, because of its inherent characteristics, cannot be solved: There is no such thing as a method of selecting rulers which can be even moderately successful over a long period of time. Every society, from the most primitive to the most "modern," has attempted a solution. Each solution has been different, either in degree or kind, from all other solutions. And all solutions have failed to select "wise and benevolent" men who have helped the society to progress. Indeed, as ideas and conditions change, methods of ruler-selection become a block—sometimes a fatal block—to progress. A method which meets the needs of a society say, in 1960, may not, in fact, probably will not, meet the needs of the same society in 1980.

This suggests a most important fact: As individuals, societies, and conditions change, governments tend to remain static and to resist change. In short, the very concept of government is in opposition to progress and /or change. To obtain a society that can last, in spite of the thousands of changes that will occur, it is necessary to not form a government at all.

This should not be taken as a suggestion that Anarchy be adopted. Anarchy, when examined closely, turns out to be primarily an *economic* system—Communalism, or if you prefer, Communism. An Anarchist simply believes that abolition of the state will serve as a means to the proper economic end.

On the contrary, the no-government concept includes as a correlative proposition the idea that people will be corresponding free to choose —individually or collectively—whatever economic, social, moral, et cetera, system they want.

I submit that only this train of thought will carry a society to a situation where, because of its extreme flexibility, it will be able to endure for as long as it desires—Jerry Millett, 404½ East 16th, Austin, Texas.

Hm-m-m . . . but the usual trouble is that some individual exercises his right as an Anarchist, to live the way he wants to by enslaving his neighbors. The most determined in this respect are those who enslave their neighbors For Their Own Good—something we might call the Torquemada Complex.

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Continued from page 5

were determined to end once and for all. A lot of people were killed, several decades of acute misery were inflicted, and what was gained?

Well . . . some laws were passed, of course. The WCTU got the Prohibition laws passed, too, a while later. But somehow the Prohibition laws didn't dry up the flow of alcohol in the nation, though it did change the economics of the system considerably. Instead of the government collecting tax revenues, the government paid for a hopeless enforcement campaign, and the people got cheaper, but more toxic, beverages tax-free.

The theoretical-idealist, however, being a theoretical minded individual, happily shouts his great triumph when he has finally gotten a law on the books. It's one hundred per cent proof of his victory . . . even if it doesn't work . . . because it's a theoretical triumph.

The South is, finally, slowly, being desegregated. If the idealists hadn't had their way a century ago, if the War hadn't been started, it's my bet that the South would have been integrated by 1910. The job would have been done—*and done right*—half a century sooner, with vastly less human misery, and with almost no bloodshed.

If you hold that Abraham Lincoln was a great, wise, and freedom-loving man . . . remember that *he did not want that war.* He knew it was the wrong answer.

And remember that it ended, for him, in the act of another theoretical-idealist, with a triumphant cry of *"Sic semper tyrannis!"*

There's nothing like an idealist when it comes to real, red-hot, all-out blood-letting bigotry. Which side he's on makes no difference at all; Hitler was a sincere, dedicated idealist, struggling for the benefit of the German people. Napoleon was the same, struggling for the French. The Principle of the Thing, rather than the thing itself, is what's important to the Idealist. He knows deeply and certainly that killing other people for the Principle of the Thing is good, right, just, and necessary.

I recall that, in one decade, the District Attorney's Office of New York County, found that the average sum of money involved in all murders over money, was something like twenty-seven cents. That's the average of *all* money-based murders in that decade.

And each murderer explained, of course, that the reason he'd killed his friend Tom over ten cents was, "It ain't the money—it's the principle of the thing. The theoretical philosophical principle of the thing!" Tom was dishonest, unethical, unjust, et cetera, and wouldn't admit that he owed that ten cents.

So we had our War Between the States, and the Abolitionists won in theory—which is all that counts to the Principle of the Thing—and the practical reality of the thing has been stalled in misery, bitterness, and hatred for the last century.

Personally, I think that Principle

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must be egregiously wrong! It's certainly intolerably inefficient.

Suppose that, somehow, the rampant idealists like Harriet Beecher Stowe and John Brown had, somehow, been fed tranquilizers, and the Lincoln's had prevailed. That the War had not come. Would the slaves have been freed?

Look; why is it that, although all recorded history before the present Western culture shows slavery as the inevitable system, this last century and a half has seen the decline and fall of slavery? What has brought about that immense change? The triumph of rising humanitarian idealism?

Don't be silly. Abolitionists have preached and ranted in every human culture.

Also, in this last century, another triumph has been achieved. Throughout all human history, men have tried to stop horse-stealing; only in the Twentieth Century have the measures against horse-stealing finally succeeded almost perfectly. The anti-horse-stealing societies can, after some sixty-five recorded centuries, shout their final triumph! See, they were right all along! Their efforts have, at last, with prison, noose, and club, beaten the stubborn offenders into non-horse-stealing behavior! And let's not mention the part Henry Ford and cheap, widely available automobiles played, because it will be utterly useless to do so. The anti-horse-stealers societies won't even hear the comments anyway.

After sixty-five centuries of effort, horse-stealing was ended . . . by inventing automobiles.

And after a period even longer, slavery has finally been ended . . . by the invention of machines. Not by theoretical-idealism preachment. Please note carefully that slave-freeing spread from Europe as a center—and spread in exactly the pattern that the spread of industrialization spread.

Naturally, the Abolitionist movement got started first in New England . . . where industrialization had been going great guns since before the Revolution.

If tranquilizers had been introduced somewhat earlier—come to think of it, the Hindu doctors had *rowulfia* available at the time!—and the War hadn't taken place, creeping industrialism would have hit the South within another decade or so. By 1871, considerable industry would have been built up in the slave states.

In the period of great industrial expansion of the late Nineteenth Century—when the cordially-damned "robber barons" were building up for us the immense industrial capital goods that made the United States what it is—the South would not have been a devastated, economically bankrupt area. The railroads would have pushed in vigorously. The great industrial potential of the South would have been developed, along with that of the midwest—probably considerably faster than the midwest. The industrial cities of the midwest had to be built; there were, already, great cities in the rich South, with

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plenty of available capital wealth, and plenty of workers to man the industrial complexes. The iron-ore of the great Mesabi range might well have poured down the cheap water-transport route of the Mississippi—open all year round!—instead of down the Great Lakes, then across the expensive land-route to Pittsburgh. The South had wealth to invest, and workers to apply to the problem.

The way to end horse-stealing is by inventing automobiles—and the only way to free men from labor is with machines. The only way slavery has ever been ended, anywhere, is by introducing industry. Industrialization makes men *want* to get rid of slaves. It always has, everywhere it's been introduced; it always will. It doesn't *make* them get rid of slaves; it makes them *want* to. Automobiles don't *make* men stop stealing horses; it makes them stop *wanting* to.

If the intemperate, impatient, self-righteous Abolitionists—the theoretical-idealists—hadn't precipitated the war, by 1890 they'd have had another theoretical-idealist humanitarian battle to fight. They'd have been campaigning to make it impossible for Southerners to free their poor old toil-worn slaves without the slave's consent. Old-age pension effects are implicit in slavery—but not in industrial worker-hiring systems. That's the first-order effect that makes slave-owning unattractive when industrialization comes in.

By 1910, fairly complete integration would have resulted throughout the South. An industrial system needs workers—and that means people who can make the machines do what they were designed for. Since machines are totally color-blind, successful industrial management gets color-blind in a screaming hurry. Human beings—except under violently emotional pressures—do not long continue impractical methods of operation. The thing that has so long delayed integration in the South is the immense emotional violence of the War Between the States. The South has long continued an extremely impractical system, because of the massive emotional tensions that War imposed.

The integration that is gradually creeping into the South today, you'll note if you look at the pattern a bit closer, is in almost perfect one-to-one correspondence with rising—belated—industrialization.

Machines are emotionless, utterly pragmatic, and ultimately objective; they test men in terms of *what that man is,* not in terms of what he thinks he is, or what somebody else thinks he ought to be. And an industrial management, to stay in business, must accept the verdict of the machine. If a man is a skilled and competent machinist—if the lathes work well under his hands—the industrial management will be forced, to remain in business, to accept that fact, whether the man be black, white, purple, or polka-dotted. If the man is a fool, the machines will react to his folly with mindless inevitability—whether he be black, white, purple or

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polka-dotted. The machines will destroy him. During WWII, girls learned to cut off, or tightly bind their beautiful long hair when they worked near machines—for a mindless machine knows no beauty, but only the tensile strength of the hair it snags, and wraps around a spinning shaft . . . and the tensile strength is far higher than the strength of a girl.

By 1961, the industrial pattern of the United States would have been vastly different, of course. And we'd have had some fifty years of effective —not theoretical—integration in the South. And, on that other time-track, in 1961 in Alabama, a qualified Negro mechanical engineer would have been quite casually accepted as obviously a more valuable citizen than an uneducable white dolt.

But, unfortunately, on our time-track, tranquilizers were introduced late, the Abolitionists got what they demanded—they got their war, imposed their will, and got the inevitable century of hate.

It's a fairly normal price to pay for the victory of theoretical-idealists. The Noble Humanitarians, marching under their great banner of We Know We're Right! It was under that mighty banner that Torquemada, Hitler, John Brown, and a thousand other intransigent idealists scourged the world.

Which naturally raises the fascinating question of what results the theoretical-idealists are going to produce in Africa now.

One thing you can bet on for certain: it will be wildly impractical, incredibly bloody, and as inefficient a way toward a valid end as was our Civil War.

And its legacy wil be more than one century of hate.

The Editor.

THE ANALYTICAL LABORATORY

Space being somewhat limited, I'll say only that there were four straight fiction pieces, plus "The Calculus of Desk Clearing" in the March 1961 issue. Hence places run from 1 to 4 . . . and "The Calculus of Desk Clearing," not being fiction—exactly!—isn't rated. But "Calculus" has already been picked up for reprinting by several technical house organs!

PLACE	STORY	AUTHOR	POINTS
1.	Ultima Thule	Mack Reynolds	1.97
2.	Hiding Place	Poul Anderson	2.04
3.	The Four-Faced Visitors of Ezekiel	Arthur W. Orton	2.58
4.	Horrible Example	Clifford D. Simak	3.31

The Editor.

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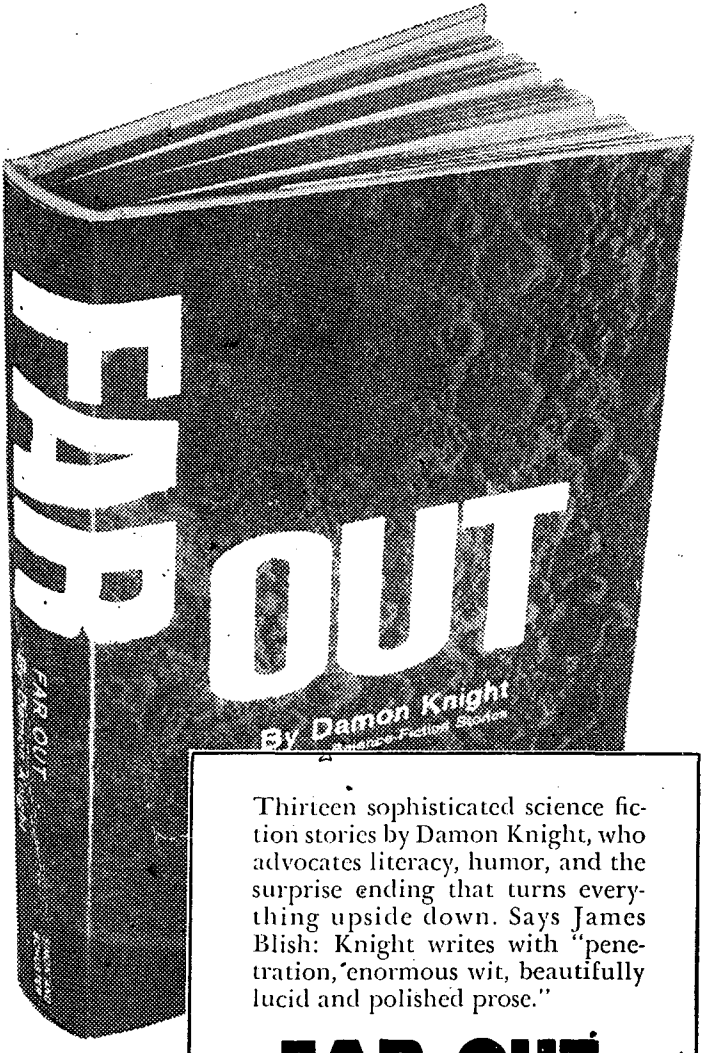

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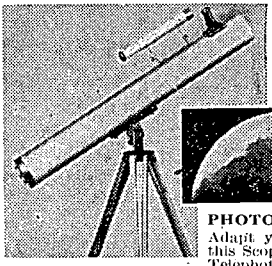

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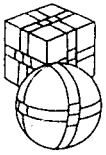

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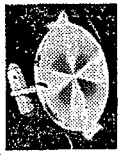

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